

TWEETING NAPOLEON AND FRIENDING CLAUSEWITZ:
SOCIAL MEDIA AND THE #MILITARYSTRATEGIST

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APPROVAL

The undersigned certify that this thesis meets master's-level standards of research, argumentation, and expression.

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DISCLAIMER

The conclusions and opinions expressed in this document are those of the author. They do not reflect the official position of the US Government, Department of Defense, the United States Air Force, or Air University.



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ABSTRACT

This thesis analyzes the relevance of social media in developing military strategists and improving the quality of their work. Beginning with an overview of, and emphasis on, the importance of grand and military strategy, the author argues the availability of social media can play a pivotal role in a strategist's development. By providing an additional avenue for lifelong learning, social media complements the more traditional methods of a strategist's development: professional military education and experience. After analyzing the historical use of social media, the author highlights social media in its modern form of the ubiquitous social networking sites. Created through the technological advent of the Internet, these websites provide tools for professions and professional development. By examining the uses of social media in medicine and academia—both analogous to the profession of arms—the author demonstrates ways the Department of Defense can harness the same tools. When applied to military strategists, social media offers additional ways to acquire and analyze information, while simultaneously providing methods to improve the presentation and quality of strategic products. The final section of the thesis includes three broad axioms of social media use, and specific proposals for the School of Advanced Air and Space Studies. These proposals may be modified for utilization by other professional development organizations as appropriate.

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Introduction

Background

Communicating across the globe is easier now than at any time in history. Messages, which previously took weeks to send across oceans, now traverse the same distance in fractions of a second. The Internet provides unprecedented speed of and access to information. Purveyors of industry, government, and academia have been quick to take advantage of the new communication medium. Yet the Internet is not limited to the elites of society. Increasing ease of access makes the Internet, and all its capabilities, available to more people annually. From 2000-2014 the amount of Internet users worldwide increased 741%.¹ Even with these 14 years of rapid increases, Internet usage still stands at only 42% globally. However, the demand for Internet access continues unabated as people search for new ways to interact. Social creatures by nature, humans desire to connect and share experiences.

The yearning to connect, combined with the Internet, lays the foundation for the prevalence of social media in modern society. Of the top fifteen most visited websites in 2014, five related to social media.² What is social media? Most Internet users share a common understanding: websites and applications, which facilitate interaction among individuals. The beginning portion of the statement, linking modern technology to social media, overemphasizes the importance of the Internet. Social media existed long before the advent of Internet. The latter segment of the statement, however, is correct. Social media does facilitate interaction. A 2011 Pew Research Study revealed three principal motivations for why individuals used social media. All three related to interaction, whether connecting with friends, sharing with

¹ Internet World Stats, “World Internet Users Statistics and 2014 World Population Stats,” accessed December 29, 2014, <http://www.internetworldstats.com/stats.htm>.

² eBiz|MBA, “Top 15 Most Popular Websites | April 2015,” accessed April 12, 2015, <http://www.ebizmba.com/articles/most-popular-websites>.

family, and renewing lost relationships.³ Another significant, but less prominent, motivation involved the search for potential dating relationships. Even the least prominent motivation focused on human interaction.

Might social media provide more than shared family photographs and 140-character outbursts about the latest Minnesota Vikings loss? The answer is yes. However, social media is only a communication medium; it is amoral, neither good nor bad. Social media users define its content, and thereby determine its use, be it for nefarious or benevolent reasons. The Aryan Nations, a white supremacist group, uses YouTube to spew hatred, while Compassion International encourages people to sponsor impoverished children on the same website.⁴ The phenomenon is not unique to YouTube. Twitter, Facebook, and other social networking sites also provide a wide array of uses. Social media provides a two-way conduit for individuals and groups to communicate and exchange information. It is fertile ground for professional development.

Although social media increases access to information, the strategist must still develop the skills to apply, analyze, and synthesize that information. Incorporating social media does not alter the fundamental process of developing strategists; rather, it complements that development. Currently, formal education courses prepare strategists by providing them with a foundation in military history, theory, and strategic studies. Continuous study, combined with field experiences, form the bedrock of self-development throughout a strategist's career. Prussian military theorist Carl von Clausewitz

³ Aaron Smith, "Why Americans Use Social Media," Pew Research Center's Internet & American Life Project, November 15, 2011, accessed December 29, 2014, <http://www.pewinternet.org/2011/11/15/why-americans-use-social-media/>.

⁴ For Aryan Nations and Compassion International YouTube videos, see: "Life More Abundantly!" (12-24-2014), 2014, https://www.youtube.com/watch?v=DJRCB1KgTck&feature=youtube_gdata_player and Compassion International - Sponsorship Video, 2012, https://www.youtube.com/watch?v=C76OrlhExE4&feature=youtube_gdata_player

emphasized that practical mastery must merge into the life of a commander. Substituting the word “strategist” for “commander” does not alter his point. Advocating “inquiry [as] the most important part of any theory,” Clausewitz implored his reader to conduct “analytical investigation leading to a close acquaintance with the subject... [that] leads to familiarity with it.”⁵ Practical experience provides the best opportunity for the strategist to practice inquiry and gain acquaintance within his field of study.

Few strategists, if any, have an adequate amount of experience to comprehend this complex field of endeavor. As noted by accomplished theorist Sir Basil H. Liddell Hart, it is rare that a single individual possesses the requisite experience of strategy.⁶ Without first-hand experience, the strategist must seek out other sources to gain familiarity. Clausewitz recommended engagement with battle-hardened foreign officers as the solution for the inexperienced.⁷ The US military applies his recommendation by inviting international officers to attend professional military schools. International officers present valuable perspectives in the classroom and expose their American counterparts to varying philosophies, strategies, experiences, and viewpoints. This method however, only benefits the relatively few officers fortunate enough to attend an in-residence education program. Currently the Air Command and Staff College (ACSC), a part of Air University, invites military personnel from over 70 different countries to participate in its eleven-month program. The majority of US officers complete their coursework via correspondence, which denies them the benefits of interacting with their international colleagues. Social media offers an avenue to make these interactions accessible to a wider audience. Specific recommendations include: reading international officer blogs,

⁵ Carl von Clausewitz, *On War*, trans. and ed. Michael Howard and Peter Paret (Princeton, N.J.: Princeton University Press, 1989), 141.

⁶ B. H. Liddell Hart, *Strategy*, 2nd ed. rev. (1967; repr., New York: Penguin, 1991), 3.

⁷ Clausewitz, *On War*, 1.

viewing videos of lectures by foreign experts, or following allied-nation strategists on Twitter. Each offers the opportunity to expand access to these experiences to more individuals. The ACSC vignette is only a small example of why social media can increase strategic proficiencies, in this case through broadening experiences. Cultivating social media use as a platform to access learned viewpoints, varied experiences, and relevant information can improve the quality of military strategists.

This paper will suggest that as a profession and community of practice, military strategists should embrace social media as a means of increasing margins of development and improving strategic outputs. Beginning with an exploration of the differing levels of strategy, the paper will identify common attributes of military strategists and analyze current methodologies for their education and development. It will highlight development gaps that social media can help close. To appreciate its enduring usefulness, the paper examines social media's presence and role throughout history. By analyzing the best practices of other professions, it shows how organizations outside the Department of Defense utilize social media to educate and develop personnel. Finally, using these outside examples as a framework, this paper will demonstrate some ways social media can benefit a strategist's self-development and professional knowledge, leading to more effective strategic outputs.

No American generation is without its struggles and challenges, yet all look to the future as more challenging and difficult than the past. The United States finds itself in constant need of good military strategists—men and women capable of setting a path toward a better, more stable future. The United States does not need its strategists to be omniscient, but it does need them to understand what they need to

know, and more importantly, where to find it.⁸ Social media acts as a catalyst for the strategist in this regard, but it is not a panacea. As an asset, social media can aid a strategist as she continues to build knowledge and familiarity with her craft.

Significance

Cold War victory occurred through thoughtful strategic use of all the national instruments of power. Success against the Soviet Union demanded a holistic approach to implementing strategy; diplomacy, economics, information, and military power all played a role. Charles Moore, writing at the US Army's Strategic Studies Institute, argued that the quality of strategic thought, which brought victory in the Cold War, has diminished over time. Twenty-five years later, he contends, the United States is struggling to find similarly balanced strategic approaches to the challenges it faces today.⁹ The decreasing trend line of strategic thought portends ominously for achieving future national interests. The need for cogent strategies did not disappear with the Warsaw Pact—their importance remains vital today. In the competitive arena of the international system, *ceteris paribus*, the side with the more talented strategist holds an advantage.¹⁰

Developing strategists is an essential function of a military organization. General David Petraeus, authoring an opinion piece on broadening soldiers through education, wrote, “The most powerful tool any soldier carries is not his weapon but his mind.”¹¹ If this is true for the common soldier in the field, how much more applicable is it for the strategist? Failing to implement every available tool in the creation and

⁸ Colin S. Gray, *Schools for Strategy: Teaching Strategy for 21st Century Conflict* (Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 2009), 30.

⁹ Charles P. Moore, “What’s the Matter with Being a Strategist (Now)?,” *Parameters* 39, no. 4 (Winter 2009-2010), 5.

¹⁰ Gray, *Schools for Strategy*, 5.

¹¹ David H. Petraeus, “Beyond the Cloister,” *The American Interest*, July 1, 2007, <http://www.the-american-interest.com/2007/07/01/beyond-the-cloister/>.

development of a strategist is a missed opportunity. It is a failure of the highest degree. With good strategy correlating to the achievement of national interests, it is counterproductive to hinder the education of strategists. Social media is a powerful tool to augment strategic proficiency and education. Neglecting to use social media in the development of strategists is reckless and shortsighted.

The ever-changing international system necessitates dynamic strategies. Good strategists create good strategies. The US military, understanding this correlation, places education as the bedrock of its officer development. Professional military education is only one method of creating strategists, and as this thesis suggests, is insufficient in its endeavor. Military strategists and their educators must look beyond the precious few years of formal education. Development is a lifelong process. Whether in formal education or an operational unit, military strategists must seize any available advantage to increase their skills. Social media offers opportunities to advance strategic knowledge outside of the traditional professional military education channels. Developing better strategists does not require them to have the genius of Napoleon or the acumen of Ulysses S. Grant. Yet they must perform well enough to defeat the adversary. Winning does not have to be pretty; it just has to occur.¹²

Methodology and Structure

This research presents four distinct chapters, culminating with recommendations on how military strategists can utilize social media to their advantage. Chapter 1 describes the varied types of strategy alongside how to develop the military strategist. The first section defines and explains grand and military strategy. Second, it identifies common character attributes of the strategist as well as education techniques.

¹² Colin S. Gray, *Strategy and History: Essays on Theory and Practice* (London: Routledge, 2006), 80.

The third and final section exposes the incomplete development of strategists through professional military education, highlighting the need for education beyond its formalized version.

To gain a more complete understanding of social media, Chapter 2 focuses on its ebb and flow throughout history. The chapter subdivides into three historical periods. The first addresses people's desire to interact and pass information. It also shows how social media accomplished this from the Roman Empire until the mid-19th Century. The second period identifies the decline of social media in the face of mass media and the broadcasting phenomenon encompassing the invention of newspapers, radio, and television. The final section covers the return of social media, through the creation of the Internet and World Wide Web. It ends with the modern method of passing information, a hybrid social and mass media creation, which people use to pass and receive information in the modern era.

Chapter 3 begins with a discussion of social media's role in adult education and self-development. Incorporated in the discussion is the concept of communities of practice and its integration with social media. The remainder of the chapter analyses two professions, academia and medicine, to glean uses of social media. Each profession provides common and unique examples to how social media advances individuals and organizations.

Finally, Chapter 4 takes some of these examples and analyzes their use in the DOD. The first portion looks at the armed forces' general use of social media. The second half of the chapter focuses on two reasons why social media can augment the military strategist, specifically for importing knowledge to the strategist and the export of knowledge, as well as better strategic products. The final portion of the chapter acknowledges a counterargument: the claim that perhaps the value of social media is overhyped.

Having analyzed why the military strategist should use social

media, the recommendations and conclusion offer some suggestions on how to apply social media. The recommendations are broad in nature, but through refining them to address the School of Advanced Air and Space Studies, their application is specific. The recommendations address not only the school and faculty, but also graduates and future students.



Chapter 1

Making Military Strategists

Listen to advice and accept instruction, that you may gain wisdom in the future.

Proverbs 19:20, ESV

What is military strategy? What does the military strategist look like? Does the Department of Defense (DOD) adequately educate strategists for their responsibility? This chapter seeks to answer these questions. Properly ordered, military strategy lies beneath grand strategy, and alongside the other elements of national power. The military strategist focuses on balancing ends, ways, and means. She does this to accomplish the military objectives supporting grand strategic goals. To ensure a ready supply of properly educated strategists, the DOD turns to professional military education (PME). Yet it falls short of the expectation to develop fully prepared military strategists. Developmental gaps exist that PME cannot fill. Might social media provide a solution to these gaps and augment military strategists?

Defining Strategy and the Strategist

Strategy is guesswork. It is educated guesswork, but it is guesswork nonetheless. Strategy seeks to achieve desired effects for the long-term future through decisions made and actions taken in the present. The definition is broad, though it accurately encompasses the nebulous nature of strategy. Clausewitz attested to its opacity by writing that strategy “presents extraordinary difficulties and it is fair to say that very few people have clear ideas about its details.”¹ These difficulties did

¹ Carl von Clausewitz, *On War*, trans. and ed. Michael Howard and Peter Paret (Princeton, N.J.: Princeton University Press, 1989), 70.

not prevent him from presenting his own definition of strategy. According to Clausewitz, strategy is “the use of *engagements* for the object of the *war*. [Emphasis added]”² By selecting words such as engagement and war, his argument appears to place strategy as a concept exclusive to the domain of military conflict. A deeper analysis reveals Clausewitz’s version of strategy as much more. Two types of strategy exist in Clausewitz’s statement. As previously discussed, the first is explicit to military strategy, the use of engagements. The second type, which he implies, is grand strategy. The “object of the war” he referenced at the end of the statement is not determined by the military domain, but rather, the political domain. Through this statement, Clausewitz asserted that strategy had a larger role that extends beyond its restrictive military realm.

Grand Strategy serves as the supreme strategy of a nation. Within it lie the instruments of national power--often referred to as the DIME--the diplomatic, informational, military, and economic powers of a state. According to retired Army Colonel, and military theorist Arthur Lykke, grand strategy is defined as, “The art and science of developing and using the political, economic, and psychological powers of a nation, together with its armed forces, during peace and war, to secure national objectives.”³ Developing grand strategy does not have a standard methodology. It is an iterative process requiring constant adaptation to the international environment—an area where chance and ambiguity prevails.⁴ Effective grand strategy properly utilizes all instruments of national power in a supplementary manner. Diplomacy without military and economic power is weak, just as military power wanes without

² Clausewitz, *On War*, 128.

³ Arthur Lykke, “Defining Military Strategy,” *Military Review* 77, no. 1 (January 1997): 2.

⁴ Williamson Murray, MacGregor Knox, and Alvin H. Bernstein, eds., *The Making of Strategy: Rulers, States, and War* (New York, NY: Cambridge University Press, 1994), 1.

political direction or a sound economic foundation.⁵ Yet none of the national instruments of power is greater than the grand strategy, which gives them meaning.

Military strategy is dependent upon grand strategy. Mao Tse-Tung unequivocally recognized this relationship when he stated, “war cannot for a single moment be separated from politics.”⁶ Despite their close, often overlapping relationship, they are not the same. Modern military theorist Colin Gray reiterates, “[military] strategy fulfills the bridging function between policy and military power, while grand strategy must accommodate consideration of all the instruments of potential use for policy.”⁷ To summarize, grand strategy continually directs military strategy.

Not all classical theorists however, agreed with the superior and subordinate relationship between grand and military strategy. Sun Tzu had a somewhat different take on the relationship. He agreed that a sovereign, through grand strategy, reserved to himself the decision to go to war. Such decisions lay beyond the purview of a general. Once the sovereign made a decision to use force, however, the military was free to conduct operations without political interference.⁸ To Sun Tzu, war separated the political and military realms. Initially held together by the political authority to use the military, the bonds between grand and military strategy broke when an army marched into the field. The military commander, not the sovereign, ultimately decided the objectives within the war.

Sun Tzu’s ideas found an unlikely ally in a 19th Century Prussian,

⁵ Richard A. Chilcoat, *Strategic Art: The New Discipline for 21st Century Leaders* (Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, 1995), 5.

⁶ Mao Tse-Tung, “On Protracted War,” in *Six Essays on Military Affairs* (Peking: Foreign Language Press, 1972), 227.

⁷ Gray, *Strategy and History*, 43.

⁸ Sun Tzu, *The Illustrated Art of War: The Definitive English Translation*, trans. Samuel B. Griffith (New York: Oxford University Press, 2005), 84.

General Helmuth von Moltke. He shared the idea that politics should not interfere in the military sphere. Like his ancient counterpart, von Moltke acknowledged that politicians possessed the sole authority on deciding to go to war. Nevertheless, like Sun Tzu, he believed that political jurisdiction stopped at the onset of military hostilities. Citing an example from the Franco-Prussian War, von Moltke emphasized, “[military] strategy had the task and right ‘to prevent politics from demanding things that are against the nature of war; to ensure that ignorance of the workings of the instruments of war did not produce mistakes in their use.’”⁹ For both Sun Tzu and von Moltke, field commanders decided the conduct of the war, not the politicians who were far from the action. As prominent as these theorists are, their positions on the role of grand and military strategy differ from the majority of other military theorists.

Military strategy is subordinate to grand strategy at all times. Emanating from Clausewitz’s oft-quoted dictum of war being policy continued through other means, three prominent theorists emphasize the concept as a central tenet of modern strategic theory. In writing on national objectives and military aims, Sir Basil H. Liddell Hart, makes clear distinctions between the political and military objectives—always bearing in mind that political objectives govern military objectives.¹⁰ Julian Corbett, in his treatise on maritime strategy, focuses on the relationship between what he terms the major and minor strategies. The minor strategy focuses on achieving military objectives to attain the goals of the major strategy, which he uses synonymously with Grand Strategy.¹¹ Though his terminology differs, his conceptual understanding remains constant; military strategy is subordinate to

⁹ Helmuth von Moltke, *Moltke on the Art of War: Selected Writings*, ed. and trans. Daniel Hughes (Novato, CA: Presidio Press, 1995), 39.

¹⁰ B.H. Liddell Hart, *Strategy*, 2nd ed. rev. (1967; repr., New York: Penguin, 1991), 338.

¹¹ Julian Corbett, *Some Principles of Maritime Strategy* (Annapolis, Md.: Naval Institute Press, 1988), 307–308.

grand strategy. A more contemporary theorist, Colin Gray, concurs with his 20th century counterparts. Writing at the US Army War College, he stated, “military strategy is grand strategy, although the former is inferior to the latter.”¹² Grand strategic decisions direct the utilization of military strategy and resources; military strategies do not exist outside of the overarching control of grand strategy and the political realm.¹³ Three diverse authors, three differing terms, two separate eras, but only one concept: political objectives and agendas drive military strategy.

When plying their craft, military strategists must understand their relationship with grand strategy. Simple in nature, military strategy focuses on balancing its ends, ways, and means.¹⁴ Military ends relate to military objectives as determined by the political realm. Military means refer to the military resources available to the strategist. The resources can vary, but the three assets generally in focus are manpower, material, and money. Lastly, military ways are possible courses of action that the strategist can use. A cogent strategy keeps all three elements in balance. Establishing the ends requires an understanding of limitations to the ways and means. The military strategist seeks to ensure military means, coupled with military ways, is sufficient to achieve the military ends, as decided by the overall grand strategy. If they are not, the strategic equation requires alteration. Balancing all three aspects in an operation is what Richard Chilcoat, former Commandant of Army War College, defined as strategic art: “The skillful formulation, coordination and application of ends (objectives), ways (courses of action), and means (supporting resources) to promote and defend the national interests.”¹⁵

This section has established the framework for military strategy and its strategists. Subordinate to the nation’s grand strategy, the

¹² Gray, *Schools for Strategy*, 29.

¹³ Clausewitz, *On War*, 605.

¹⁴ Lykke, “Defining Military Strategy,” 3.

¹⁵ Chilcoat, *Strategic Art: The New Discipline for 21st Century Leaders*, 4.

strategist plies her craft of military strategy in conjunction with the other instruments of power. She is concerned with balancing military ways and means to accomplish military ends, all the while supporting the greater political goals. The military strategist then, is an individual, who is directly or indirectly involved with developing an over-arching, long-term series of events to achieve desired military end-states. Her task is vital to national security. Forethought is required to place qualified individuals in a position to develop better military strategy.

Identifying, Creating, and Developing Strategists

Individuals rarely create military strategy without assistance. Outside the unique capabilities of Napoleon or Frederick the Great, it is groups that normally develop military strategies. The strategists in these groups must be proficient in their craft, as their work molds the foundation of military objectives and force development. Strategy is vitally important to the armed forces. Retired Air Force Colonel, and designer of Operation INSTANT THUNDER, John Warden described command as the “*sine qua non* of military operations.”¹⁶ Without command, military organizations devolve into a rabble. Replacing “strategy” for “command” in his statement does little to alter the meaning of the message—a military force without strategic direction is little more than a well-armed mob. Strategic thought is essential for military officers. The United States needs all ranks of military officers to develop a level of strategic acumen.

Successful military strategies involve officers at all levels, not just those in senior positions. Junior officers are important, not only to implement the senior strategists’ decisions, but also to assist in

¹⁶ John Andreas Olsen, *John Warden and the Renaissance of American Air Power*, 1st ed. (Washington, D.C: Potomac Books, 2007), 69.

developing those ideas by relaying their experiences in the field.¹⁷ All officers have some role to play in the development of military strategy, yet not every officer will occupy a position responsible for making strategic decisions. Nevertheless, they might sit behind those at the conference table, advising policymakers on the proper decisions to make.¹⁸ Strategic aptitude often determines whether one is sitting at, or behind, the conference table. As with any large organization, a wide range of ability levels exists among its members, and strategic thought in the DOD is no exception.

Military strategy requires a broad base of knowledge and abilities. According to John Galvin, retired Army General and former Dean of the Fletcher School of Law and Diplomacy, the quintessential military strategist needs many qualifications: aptitude, experience, and education; an understanding of national strategy and the international environment; an appreciation of the constrained use of force and limits of national resources toward defense; and an understanding of structure and abilities of the military, both friend and foe.¹⁹ Despite the overwhelming nature of Galvin's requirements, officers should strive to be proficient in them at a minimum. Not all officers can excel at this task. Superior strategists possess similar character attributes. John Collins, in his work *Grand Strategy*, analyzes five historical strategists to identify and categorize shared character elements. He selected the following men for comparison: Carl von Clausewitz, Herman Kahn, Vladimir Lenin, Mao Tse-Tung, and Giulio Douhet.²⁰

Carl von Clausewitz was autodidactic in his younger years, eventually earning admission to the Prussian War Academy. He

¹⁷ John R. Galvin, "What's the Matter with Being a Strategist?," *Parameters* 19 (March 1989): 2.

¹⁸ Joan Johnson-Freese, *Educating America's Military* (New York, NY: Routledge, 2013), 114.

¹⁹ Galvin, "What's the Matter with Being a Strategist?," 3.

²⁰ John M. Collins, *Grand Strategy: Practices and Principles* (Annapolis, MD: Naval Institute Press, 1973), 220-221.

dedicated his life to military studies, though only experienced combat briefly by fighting in the Russian army against Napoleon. Eventually returning as head of the Prussian War Academy, he immersed his life in military study and writing, mostly famously his magnum opus, *On War*.

Herman Kahn served only a brief three-year stint in the military. His early education focused on physics and mathematics. Yet his most illustrious work occurred during his time at the RAND Corporation, where he theorized on general nuclear war. His lasting legacy focused on deterrence and the need for a second-strike capability.

Vladimir Lenin never served a day in the military. He attended college but failed to complete his university coursework. Nevertheless, he displayed persistence by earning his law degree through non-resident study. Infatuated with the works of Marx, Machiavelli, and Clausewitz, he synthesized their ideas into his Bolshevik ideology, setting in motion what would later become the Soviet Union.

Mao Tse-Tung had more combat experience than any of Collins' other examples, which he gained during the Chinese Civil War. In his youth, he rebelled against conventional Chinese education, instead concentrating his studies on the military and romantic era of Chinese history. Dedicating himself to the "people's struggle," he evolved his own Marxist strategy as a baseline of communist Chinese dogma.

Giulio Douhet, an Italian army officer during World War I, envisioned the world to come. Emphasizing the importance of the airplane merely five years after the Wright Brothers' first flight, he clashed with the conservative military establishment. Court-martialed and imprisoned, the Italian government recalled him to active duty once his ideas proved valid after the Caporetto disaster in 1917. Douhet simply imagined the possibilities inherent in new technology.

Despite the great differences in lives and upbringings, each man shared character attributes with his peers. Collins identified 12 characteristics shared by all.

Table 1: Collins' Twelve Attributes of Good Strategists

Brainy	Scholarly	Inquisitive	Rational
Analytical	Imaginative	Skeptical	Open-Minded
Objective	Patient	Articulate	Self-Confident

Source: Adapted from John Collins, *Grand Strategy: Practices and Principles*, 1973.

Possessing all of Collins' character attributes is not a prerequisite to being a good strategist. However, the more traits that are absent, the less likely the individual is to excel at strategic thought. Of Collins' attributes, some lie outside standard military bearing, while others describe sought after qualities in the profession of arms. The adjectives open-minded, imaginative, and skeptical rarely describe someone in the bureaucratic and disciplined military culture. On the contrary, the armed forces expect its military officer to be scholarly, articulate, and rational.

Galvin identified another characteristic of strategists, one not identified by Collins: self-development.²¹ This attribute is very common in military officers. With the promotion system of "up or out," military officers strive to improve their professional skills throughout their careers. Those who do not aspire to this quality, rarely remain in uniform very long. Those who continually improve themselves through self-development, earn recognition by their selection to attend formalized PME in-residence. Military services use attendance at these schools to stratify officers. Those selected trend toward positions of strategic influence. To equip those officers for the challenges they will encounter after PME, Colin Gray presents recommendations for both strategists and their educators. The remainder of this section states and expounds on these recommendation.

For any strategist, a formal education in strategic theory and military history is important.²² The political and military landscape looks

²¹ Galvin, "What's the Matter with Being a Strategist?," 9.

²² Gray, *Schools for Strategy*, 42.

different than it did a decade ago. Regardless, strategic theory from the 19th Century is as valid to study presently as when written. Admiral Richard Connolly commented that history and strategic theory helps one to “think more clearly in order to properly analyze the situations and assess and evaluate the various factors that produce success or failure.”²³ Familiarity with past military history and theory establishes a common baseline of strategic knowledge. At the strategic level, the past often reveals ways to analyze current problems. Yet learning about the past only serves as a foundation for developing strategy; the next step involves its creation and implementation.

Strategy is a practical, as well as theoretical subject. Mastering the classical theorists is important, but not sufficient. Military strategists need to expand their knowledge through the educational environment, but ultimately, that knowledge requires action. In this manner, strategists differ from theorists. Strategists must apply their knowledge in real-time, while theorists apply their knowledge in the classroom or in the abstract.²⁴ Studying strategic theory and military history does not provide a checklist for solving strategic problems. Nevertheless, such study may reduce the probability of poor strategies.²⁵ If strategists are unwilling to learn and adapt, their outputs are often poor. As an example, a strategy that is too rigid in its development rarely produces success. Mao Tse-Tung warned about adopting idealistic and mechanistic tendencies, stating that the strategist must keep an open mind to all possibilities, not just those learned through study of organizational doctrine.²⁶ Teaching and learning strategic theory is important; however, theory is only valuable if it adapts.

Limiting a student’s opportunity to expand his mind and “think

²³ J. C. Wylie, *Military Strategy: A General Theory of Power Control* (Annapolis: Naval Institute Press, 1989), xxii.

²⁴ Gray, *Schools for Strategy*, 37.

²⁵ Gray, *Strategy and History*, 46.

²⁶ Tse-Tung, “On Protracted War,” 195.

strategically” inhibits his ability to analyze the complexities inherent in every strategic problem.²⁷ When contemplating the ends, ways, and means of a strategic problem, it is insufficient for a strategist simply to understand the issues. He must develop an intuition, built through thinking strategically, about the second and third order effects of a decision. He must anticipate what happens next, instead of focusing on the immediate problem. His task becomes even more difficult in the dynamic international system, where the elements of military strategy (ends, ways, and means) constantly change. Since 1990, the United States has seen the end of the Cold War, the spread of Islamic extremism, the rise of China as a regional power, and a militarily resurgent Russia. In this tumultuous world, the ends of grand strategy are a moving target for the strategist, yet he must always concentrate on this bulls-eye. The ends however, are not the only strategic element in flux. A drawdown of the military budget affects the quantity and quality of strategic means at his disposal, as do rapid technological advancements, which give rise to new ways of conducting operations. Balancing military ends, ways, and mean is an iterative process, but the strategist must think strategically to ensure he understands how each are intertwined. By thinking strategically, the military strategist focuses his attention beyond what is in front of him, in order to anticipate the possibilities.

When thinking strategically, the product benefits if the strategist maintains a healthy bit of skepticism.²⁸ This does not mean crossing into cynicism; an effective skeptic displays Collins’ attributes of objectiveness and open-mindedness. Loyal adherence to doctrine and organizational dogma produces narrow strategies. Freedom of thought, especially from official policy, leads to creative strategies, as strategy requires periodically going beyond the conservative approach. Strategy

²⁷ Gray, *Schools for Strategy*, 40.

²⁸ Gray, *Schools for Strategy*, 47.

stagnates when the fear of speaking against standard policy becomes tangible.²⁹ Yet, there are costs to a strategist being too outspoken. The zealotry of air power demonstrated by Billy Mitchell and John Warden provide examples; the former was court-martialed and the latter ostracized by his service. As Collins' qualities signify, the good strategist needs to be articulate and understand how to challenge official policies effectively. A blacklisted or marginalized strategist provides little benefit.

Encompassed in the previous recommendations is an education in the liberal arts.³⁰ When operating at the tactical-level, the soldier ought to focus his thoughts on the military arts. In the strategic realm, however, the strategist cannot avoid exposure to the other elements of national power. The more political and economic knowledge a strategist possesses, the more complete his understanding of the issues will be. The social sciences complement a military strategist by providing greater fidelity in understanding the elements of grand strategy. Basic knowledge of subjects such as international relations theory and sociology help to better formulate military strategies. Additionally, a military strategist who is well versed in the liberal arts, as opposed to a strategist limited to the military arts alone, has the understanding and vernacular to better connect with a civilian audience.³¹ Teaching or learning military strategy without the aid of larger field of social sciences dilutes both the strategist, his product, and his presentation.

Creating and developing military strategists is not an easy task. Providing opportunities to strengthen John Collins' strategic attributes, in addition to promoting avenues for officer self-development reduces the difficulty. Colin Gray's recommendations on developing strategists assist in accomplishing these actions, but the task remains daunting. Historically, strategists had the advantages of time in order to think

²⁹ Collins, *Grand Strategy*, 227–230.

³⁰ Gray, *Schools for Strategy*, 50.

³¹ Gray, *Schools for Strategy*, 51.

about strategy.³² Military theorist J.F.C. Fuller commented on his ability to develop his theories over a 20-year period. Shackled by the encumbrance of increased duties, today's military strategists lack such luxuries. Yet the expectations remain unchanged. Fairly or unfairly, the DOD placed the enormous responsibility of preparing competent strategists onto the shoulders of PME.

Professional Military Education and its Shortfalls

Education is essential for producing quality military officers. The United States requires its military officers to have an undergraduate degree at a minimum, prior to commissioning. Once commissioned, the PME system continues an officer's educational development at specific intervals throughout his career. Though in-residence PME takes officers out of the operational chain of command, the DOD considers it an investment. By providing an officer additional education, it better prepares him for the "rigorous intellectual demands of complex contingencies and major conflicts."³³ Military strategists, as officers, take part in the same PME system. To critics however, PME is failing to provide adequate training for the demands placed upon the strategist. After the attacks of September 11, 2001, Deputy Secretary of Defense Paul Wolfowitz lamented, "The U.S. government, especially the Pentagon, is incapable of producing the kinds of ideas and strategy needed to deal with a crisis of the magnitude of 9/11."³⁴ Reality was not as bleak as Secretary Wolfowitz indicated, yet portions of his critique have merit. PME, like most DOD programs, is bureaucratic in nature, and does not always move at the pace of change required. Members of Congress, concerned with the apparent lack of urgency in the PME system, held a

³² John Herrling and Thomas Tempel, "Education of Military Strategists" (AWC Study Project, Carlisle Barracks, PA, June 7, 1982), 11.

³³ House, *Charting the Course for Effective Professional Military Education* (Washington, DC: U.S. Government Printing Office, 2009), 1.

³⁴ Bob Woodward, *State of Denial* (New York: Simon & Schuster, 2006), 83.

hearing to discuss the perceived decline in military strategic thought.³⁵

Their perceptions of a declining PME system are not without merit. If education remains constant, as the amount of information a strategist must master increases, their preparedness can only decrease as a result. The requirements placed on the PME system to educate strategists are daunting. Longtime champion of PME, the late Congressman Ike Skelton, summed up the expectations of strategists by stating: “Given the potential influence of many different subject areas on strategic thinking—trends in political, technological, economic, scientific, and social issues, both domestic and international—strategists must have the broadest possible education base.”³⁶

The PME schools are not entirely to blame for falling short of Congressman Skelton’s lofty expectations. Given the operational requirements of the officer corps, there is a finite capability the DOD and its PME system have to develop strategists. At best, during an officer’s career he will spend 2-3 years at in-residence PME schools. Twice at the field grade officer level, and if selected, he will spend a third year at an advanced study group (highly selective schools designed to steep officers in planning and strategic thought). Even with the advanced study groups, the DOD only produces 200 officers per year specifically educated in strategic theory. This number only covers half of the requested positions. Additionally, the last school a strategist may attend occurs around the 20-year time-in-service mark. This coincides with a period in an officer’s career, which begins the transition to flag-officer ranks. A sad irony exists in this transition period, as strategic schooling is almost non-existent at the general officer level.³⁷

The expectation for PME to satisfy every requirement of a developing military strategist presents too daunting a task. The PME

³⁵ House, *Charting the Course for Effective Professional Military Education*, 5.

³⁶ Jeff Geraghty, “The Nature and Nurture of Military Genius: Developing Senior Strategic Leaders for the Postmodern Military” (SAASS Thesis, Air University, 2010), 18.

³⁷ House, *Charting the Course for Effective Professional Military Education*, 44.

schools are working to improve and are adjusting their curricula to accommodate the increasing demands.³⁸ Regardless of any successes they might have, even if the schools met all expectations, they would still fall short of a complete solution. Formal education cannot and should not be a singular tool in developing strategists. The best strategists do not rely on formal education alone to further their development. They look to additional avenues for self-development.

Three elements comprise a strategist's development. Formal education only encompasses one of these elements. An officer's career experiences and self-development comprise the other two.³⁹ These two aspects of development are equal in importance to formal education. A good strategist always seeks to further his knowledge base and tools of analysis. The duty to continually search for knowledge applies to all ranks and levels of responsibility. The strategically thinking lieutenant and strategically thinking general both have an obligation to improve their ability to apply strategy.⁴⁰ As a strategist moves from theory to practice, experiences assume a vital role in his development process. Formal education and self-development cannot replace real-world experiences. The military strategist needs to meld experiential knowledge gleaned from his career with his formal and informal education. A benefit of in-residence military education is the opportunity to share such experiences with fellow officers. Strategists benefit tremendously from exchanging thoughts and ideas; formal education settings provide numerous opportunities for these exchanges.⁴¹ However, the limited amount of time in PME makes seminar and classroom discussions the exception in a military strategist's career.

Self-development is the last element, and largest portion, of improving strategists. It is also the element where the strategist

³⁸ House, *Charting the Course for Effective Professional Military Education*, 2.

³⁹ Galvin, "What's the Matter with Being a Strategist?," 5.

⁴⁰ Galvin, "What's the Matter with Being a Strategist?," 8.

⁴¹ Herrling and Tempel, "Education of Military Strategists," 14.

exercises the most control. Though the PME schools cannot ensure self-development occurs after graduation, they can assist in promoting methods for the strategist to continue her educational journey. Schools can assist military strategists by providing them “tools for self-education throughout the remainder of their careers.”⁴² A more holistic approach to the military education system, one that emphasizes lifelong learning, helps create better strategists through fostering a desire to continue the education process.⁴³ Strategic thinking is not an ability a strategist can place on a shelf and retrieve at will. It is a continuous process, nurtured throughout a career—it is not an “elective” for senior officers to use when needed.⁴⁴ The practice of continual learning is not easy, but the payoff is worth the investment. General Albert C. Wedemeyer, an architect of US mobilization during World War II, “continued the reading habits established in his youth,” that helped him prepare for his strategic planning on the General Staff during World War II.⁴⁵ “Just in time” training is not effective at the strategic level; there is no shortcut for developing strategic thought.

Three processes assist in developing strategic art: understanding adult learning, utilizing current technologies, and expanding conceptual horizons.⁴⁶ Understanding the adult learning process facilitates effective methodologies for use in PME, in addition to instructing strategists on new self-development techniques. Utilizing current technology allows easier discourse between mentors and peers. Technology also plays a role in the third process, expanding conceptual horizons. The ability to access information, specifically opinions and ideas outside of traditional military strategies, broadens the aperture of strategic thought.

Expanding a strategist’s horizons incorporates Collins’s attributes of

⁴² Olsen, *John Warden and the Renaissance of American Air Power*, 116.

⁴³ Jeffreyn D. McCausland and Gregg F. Martin, “Transforming Strategic Leader Education for the 21st-Century Army,” *Parameters* 31, no. 3 (Autumn 2001): 18.

⁴⁴ Galvin, “What’s the Matter with Being a Strategist?,” 9.

⁴⁵ Moore, “What’s the Matter with Being a Strategist (Now)?,” 14-15.

⁴⁶ Chilcoat, *Strategic Art: The New Discipline for 21st Century Leaders*, 17-18.

skepticism and open-mindedness. The more a strategist can utilize and practice these processes, the greater her ability to produce better strategic outputs.

Military strategy is an important element of grand strategy. A nation should give all due diligence to the creation, education, and development of its military strategy practitioners. In an ideal scenario, military strategists have the requisite amount of time to theorize and practice their craft. The duties of military officers however, do not meet the ideal scenario. PME attempts to give strategists the education they require, but it cannot fulfill all the expectations. The good military strategists are highly motivated toward self-development in strategic art. They use every available resource and advantage to enhance their abilities. Technology provides an interactive medium to augment strategic development. Social media has proved itself an adequate and malleable tool. It is a way for the strategist to receive education, share experiences with colleagues, and seek out opportunities to increase their knowledge base and analytical abilities. Blogs, wikis, and streaming video technology such as Skype, alongside other social networking sites expand the reach of the strategist to gather information and experiences.⁴⁷ The age of conducting strategy in isolation is over. Person-to-person interactions are at the heart of social media. Today's technology provides greater access to engage in discussion and gather information sources. Social media alone is not an answer to producing better strategists, but it does provide tools for a strategist to achieve better results. The history of social media confirms this statement.

⁴⁷ Pollyanna Montgomery, "Building Better Strategists" (AWC Research Project, Carlisle Barracks, PA, March 18, 2008), 9–10.

Chapter 2

Social Media through the Ages

What has been is what will be, and what has been done is what will be done, and there is nothing new under the sun.

Ecclesiastes 1:9, ESV

Humans are attracted to each other, longing for interaction. Social media satiates this desire for connecting. It permeates western society today and is rapidly expanding in the developing world. Despite the recent flourishing of social media through technological advances and websites, it has existed for over two millennia. What is social media? How does it differ from mass media? Does social media offer interactions that mass media does not? Moreover, what does all this mean to the military strategist? This chapter analyzes the historical presence and use of social media. It traces social media's dominance throughout much of history, its decline with the rise of broadcasting, and its renewal through the advent of the Internet. The latter offers a platform for the military strategist to increase the mastery of her craft.

Social Creatures and Social Media

Humans are social creatures. Whether congregating into cities during the Middle Ages or exchanging group text messages in the modern era, human beings gravitate toward interaction with one another. The precondition for social interaction starts prior to birth. A 2010 study at the University of Padova analyzed the interaction of intrauterine twins. The researchers discovered increasing interaction between twins during gestation. As opposed to interacting with the uterine wall or her own appendages, a twin become more interactive with her sibling as the pregnancy developed. Given a choice to “play” alone or with others,

twins choose to “play” with others. The researchers concluded that human social interaction is a cognitive function ingrained in brain activity during gestation. The human desire to interact with each other, proven through this study, is nature, not nurture.¹

The absence of positive social interaction results in loneliness. Loneliness is not synonymous with isolation, since a person can be in the presence of others and still feel lonely if he is without interaction. The lack of good or reinforcing social interaction causes loneliness.² Positive community or social group interaction precludes the feeling of loneliness and alienation. Conversely, those without such interactions can develop self-destructive tendencies. They may drink more alcohol, exercise less, have inefficient sleep, and eat unhealthy diets.³ Even religious texts address the problem of loneliness (Gen 2:18). Humans long to be part of a group and receive positive reinforcement.

Humans also thirst for knowledge and information. Take the Internet away from almost any American for over a day and he is lost. His negative feelings, derived from a lack of information, are not unique to the modern age. There are numerous historical examples of individuals feeling a sense of emptiness accompanying the loss of an information source. Whether it was New Yorkers in 1814 complaining about a lack of news during the Napoleonic Wars, or a Frenchman in 1871, “beg[ging] for a newspaper” so he could keep abreast of the Franco-Prussian War, humans have a desire to be informed. A 17-day newspaper strike removed the main source of news for most New Yorkers in 1945; their comments indicated a near complete shutdown. They felt, “lost and nervous,” “hurt,” and “suffering,” for lack of news and

¹ Aldo Rustichini, ed., “Wired to Be Social: The Ontogeny of Human Interaction,” *PLoS ONE* 5, no. 10 (October 7, 2010), 10.

² Nancy Schute, “Why Loneliness Is Bad for Your Health,” *US News and World Report*, November 12, 2008.

³ Schute, “Why Loneliness Is Bad for Your Health.”

information.⁴ These reactions differ little from the present day.

The creation and use of social media satisfies human eagerness for both interaction and information. In his book, *Writing on the Wall: Social Media, The First 2,000 Years*, Tom Standage defined social media as an environment that passes information from person to person along social connections.⁵ Social media distributes discussions across communities. It moves information horizontally through two-way interactions among individuals. The opposite of social media is the top-down passing of information—known better as mass media or broadcasting.⁶ In the place of the two-way discussion of horizontal networks, vertical networks rely on a single point of information and knowledge. Both types of media seek to achieve the same ends, by reaching people and transmitting ideas. One form relies on social interaction and discussion to permeate information, the other form distributes information from a central location. History shows the pervasiveness of social media through the centuries, but its influence faded with the advent of mass media. The technological breakthroughs of the Internet and World Wide Web served to revive social media in its present form of websites and mobile devices.

From Antiquity to the American Broadcasting Corporation

BRB (be right back), AFAIK (as far as I know), TTYL (talk to you later), and of course, LOL (laugh out loud) are all common text message abbreviations used daily on devices across America. The American teenager, however, does not hold the copyright on minimizing common phrases. Shortening phrases to an acronym did not originate with the need to fit a message on a 140-character tweet. The Romans used the same literary device centuries ago. SVBEEV, *si vales, bene est, ego*

⁴ Mitchell Stephens, *A History of News: From the Drum to the Satellite* (New York, NY, U.S.A: Viking, 1988), 15–17.

⁵ Tom Standage, *Writing on the Wall: Social Media, the First 2,000 Years* (New York, NY: Bloomsbury USA, 2013), 3.

⁶ Standage, *Writing on the Wall*, 4.

valeo, translated, “if you are well, that is good, I am well,” was a common abbreviation used in Ancient Rome on written messages.⁷ The great orator, and prominent Roman citizen, Cicero used this abbreviation, alongside many others, in his numerous correspondences.

Romans in general and Cicero more specifically, actively engaged in social media. They depended on the passing of information across their communities to stay informed of the news circulating the empire. The reliance upon social connectivity stretched from the common citizen to the emperor himself. Julius Caesar relied on social media to spread information to the Roman people about the politics of the day. Ever the populist, upon assuming his role as emperor, Caesar took actions to make the senate and daily news more available to the citizenry. The *Acta Diurna Romana Populi* was a publication detailing the daily actions of the Roman people; it entered print starting in 59 B.C.⁸ Containing content similar to a modern newspaper, its distribution method differed completely. The official *acta diurna* consisted of a single copy, but it hung in the Forum for all to see. From this point, social media took over its distribution. Roman citizens, such as Cicero, employed scribes (or used slaves if wealthy enough) to copy the original *acta* and have it delivered back to them.⁹ The copies, originating in the Forum spread throughout the empire. This distribution method allowed Cicero and the Roman citizenry, even when outside of the city, to keep abreast of the situation in Rome.

Copies of the *acta* were not the only type of correspondence Cicero employed while away from Rome. When staying at his villa outside the city, Cicero utilized messengers to correspond with his colleagues still in Rome. Similar to many people today, Cicero had a difficult time not looking at his social media “feeds.” He was so desperate for interaction

⁷ Standage, *Writing on the Wall*, 22.

⁸ Stephens, *A History of News*, 63–64.

⁹ Standage, *Writing on the Wall*, 2.

and information he once wrote his friend Atticus, “I shall write you nearly every day, for I prefer to send letters to no purpose rather than for you to have no messenger to give one to, if there should be anything you think I ought to know.”¹⁰ Before the birth of Christ, Cicero was “poking” his friends through Roman social media.

Another use of social media during the Roman Empire involved promoting one’s writings. Even before the advent of publishers and printing houses, books still required public enthusiasm to earn a profit. Cicero and others accomplished this through their social community. The size of an individual’s personal library was a status symbol in Rome (and to some degree remains so in modern times). Instead of receiving numerous books through an advanced study group, private Roman citizens purchased their own copies of literature to display their opulence. Aspiring authors, such as Cicero, used their influence with well-known citizens, to place their writings in the patrons’ large personal libraries.¹¹ As other citizens perused these private libraries, Cicero’s writings received gravitas for being in a well-regarded location. If interested in his works, citizens could have their scribes copy Cicero’s book. An alternative method of gaining a copy involved paying Cicero for his work, of which he had previously made copies. In essence, this made Cicero his own publisher—the first vanity press.¹² This method gained writers both influence and money.

Influence and branding extended beyond the aristocratic level of Roman society. In towns and cities throughout the empire, Romans took literally to writing on the walls of houses and businesses.¹³ In an ancient combination of Facebook and Yelp, Romans wrote numerous messages on building walls. From their own personal exploits, often

¹⁰ Standage, *Writing on the Wall*, 26.

¹¹ Elmer D. Johnson, *Communication: An Introduction to the History of Writing, Printing, Books and Libraries*, 3d ed. (New York, NY: The Scarecrow Press, 1966), 36-37

¹² Johnson, *Communication: An Introduction to the History of Writing, Printing, Books and Libraries*, 38-39.

¹³ Standage, *Writing on the Wall*, 38.

graphic in nature, to the best locations to eat, drink, or sleep, Roman citizens did not suffer for a lack of recommendations. Just as upper class Roman citizens utilized social connections to further their agendas, the lower classes exercised the same capabilities. Yet one section of Roman society utilized social media to greater effect than any other—Christians.

The first century Christians, initially persecuted by the Roman Empire, relied on traveling preachers and letter writing to propagate their faith. The fact that over half the books of the New Testament are letters indicated the apostles' dedication to the written form. One apostle stood out among the rest: the Apostle Paul, a Roman citizen, wrote the vast majority of the New Testament letters. Utilizing the safest and most interconnected transport system in the ancient world, he traveled to different regions of the empire, spreading his messages along the way. Additionally, he situated himself in cities that lay along major roadways or seaports to facilitate the movement of his letters.¹⁴

To propagate his message more effectively, Paul encouraged (or directed) early Christian churches to read his letters and send them throughout their localities. His correspondence to the Thessalonians encouraged them to read his letter to “all the brothers and sisters,” while Paul’s second letter to the Corinthians was addressed also to include, “all His holy people throughout Achaia.” Though addressed to single churches, he intended his Christian brothers to copy the letters and send them throughout the region. True to the interactive nature of social media, his letters were not a one-way communication. Paul received letters and other correspondence while on his travels (Phil 4:16). Through this method, Paul was not only able to maintain contact with his own network of churches, but also remain informed on the church networks of the other Apostles, such as St. Peter (Gal 2:6-10). Through

¹⁴ Standage, *Writing on the Wall*, 43.

the passing of letters and preaching, religious scholar Michael Thomas dubbed the first century Christians' methods, "The Holy Internet." The effectiveness of the early Church's use of social media played no small part in Christianity becoming the largest religion in the world today.

Over a millennium later, Martin Luther used the social media of his day to the same effect.

In October 1517, a parchment nailed to the door of the Castle Church in Wittenberg, Germany began a series of events, which culminated with the sundering of the Catholic Church.¹⁵ Martin Luther served as the central figure in this religious revolution. A learned Catholic monk, during his priesthood he became disillusioned with some of the Holy See's doctrine. In particular, he could not abide the concept of plenary indulgences—the ability to purchase away temporal sin. Emboldened by his views against the selling of indulgences, Luther wrote his 95 theses. Indulgences might have been the catalyst, but his theses indicted the Catholic Church across numerous avenues. Previous methods of social media, primarily word of mouth, played a role in the spread of his theses, but it was the printing and circulation of pamphlets that ignited the Lutheran movement.

Invented by Johannes Gutenberg around 1450, the movable-type printing press exponentially increased the rate of copying and distributing written material.¹⁶ As Gutenberg's presses gained a foothold in the nascent publishing industry, the printer occupation eventually came to replace the scribe, changing the world forever. By the year 1500, over 1,000 printing presses existed in 250 European cities. The burgeoning publishing houses caught Luther's attention. He utilized this new social media technology to propagate his theses and tracts. Brevity

¹⁵ Heiko Augustinus Oberman, *Luther: Man between God and the Devil* (New Haven: Yale University Press, 1989), 190.

¹⁶ Johnson, *Communication: An Introduction to the History of Writing, Printing, Books and Libraries*, 64. It is important to note the "moveable type" distinction in Gutenberg's printing press, as eastern cultures developed non-moveable types of printing centuries earlier.

was important to spreading Luther's message. Printing pamphlet-sized materials vice larger books helped spread his messages; reader's preference for *Cliff's Notes* instead of a whole book is not a new phenomenon. Additionally, the language of the printed material also affected the amount of readers.

Despite Luther writing the original prints of his theses in Latin, his followers translated the copies into German, making the pamphlets accessible to a much larger audience. Similar to the Romans and the *acta diurna*, after Luther nailed his 95 theses to the church, people came and hand-copied the Latin writing for distribution. Due to the advent of the Gutenberg press, instead of repeated hand-copies, the German people used their local printing shops to reproduce multiple copies. Yet, these original printed copies were still in Latin. As these pamphlets spread to other towns, entrepreneurial printers translated the Latin into German, increase the readership along with their profit.¹⁷ In essence, these printers were sharing or "retweeting" Martin Luther's material.

Luther did not expect his writings to be so pervasive. Aided by the printing presses, Luther's theses reached all of Germany within two weeks of the original printing and the entire Christian world within a month.¹⁸ When he realized the power of printing, he altered his methods. Luther began writing his pamphlets in German vice Latin and used his local Wittenberg printing press to create copies. After distributing the initial prints, Luther let the social networks of his followers spread the material—this new method worked phenomenally well. The reprints of Luther's pamphlets outnumbered original copies by a large margin. From 1518-1528, the ratio of reprints to originals ranged from 3:1 to 9:1, with an average of ratio of 5.5:1.¹⁹

¹⁷ Lessons from Ancient Social Media | Tom Standage | TEDxOxbridge, 2013, https://www.youtube.com/watch?v=ixsridS3qVs&feature=youtube_gdata_player.

¹⁸ Lessons from Ancient Social Media, TEDxOxbridge, 2013.

¹⁹ Mark U. Edwards Jr., *Printing, Propaganda, and Martin Luther* (Minneapolis, MN: Fortress Press, 2005), 21.

Martin Luther used the social media of his day to get his messages to go viral. Though Luther changed Christianity through the Reformation, creating a schism in the Catholic Church was not his ultimate desire. The printing press played a large role in Luther's messages reaching the masses. Nevertheless, the printing presses were not limited to religious materials. Different professional institutions, artisans, political theorists, and academics followed Luther's method of success by printing their own works and pamphlets. Copies of these writings found their way to the 17th and 18th Century equivalent of an Internet chat room, the coffeehouse.

Brought to Europe from Arab traders, coffee was the drink of choice in London during the 17th Century. For a penny per serving, patrons of all social strata gathered and discussed news of the day, staying as long as they liked, sipping on "bowls" of coffee. The city of Oxford was home to the first coffeehouse in 1650 and London built its first coffeehouse in 1652, but it did not take long for these proto-Starbucks to spring up throughout European towns.²⁰ Coffeehouses were the physical manifestation of social media networks overlapping—the worker, aristocrat, politician, and scholar all gathered under the same roof.²¹ Each coffeehouse had its own flavors of coffee, but it also had its own preferred "flavor" of discussion and pamphlet.

Political pamphlets were popular throughout the coffeehouse era. Joseph Addison and Richard Steele were two prominent journalists of the early 18th Century. They made their mark in the coffeehouses by publishing articles in the popular *Spectator* and *Tatler* pamphlets; both titles are still in publication (albeit in different format).²² Political in content, the pamphlets generated discussion among the coffeehouse

²⁰ Brian Cowan, "The Rise of the Coffeehouse Reconsidered," *The Historical Journal* 47, no. 1 (March 2004): 21.

²¹ Stephens, *A History of News*, 41–43.

²² Brian Cowan, "Mr. Spectator and the Coffeehouse Public Sphere," *Eighteenth-Century Studies* 37, no. 3 (2004), 344–346.

patrons with a wit and light tone as opposed to a dense political treatise. Addison himself, in *Spectator* # 10, alluded to the purpose of his writing to “enliven Morality with Wit, and to temper Wit with Morality, that my readers may, if possible, both Ways find their account in the Speculation of the Day [sic].”²³ Just as Addison and Steele’s pamphlets had a particular tone, which attracted specific readers, the coffeehouses themselves attracted certain clientele. An edition of the *Tatler* listed the various coffeehouses one might visit to partake in a specific topics of discussion. It noted that literary discourse took place at the Covent Garden coffeehouse, whereas maritime science and experimentation dominated the discussion at the Marine coffeehouse. The Grecian however, was the coffeehouse where the most illustrious scientists of the day imbibed their coffee of choice.²⁴

In January 1684, after a day at Oxford, British scientists Robert Hooke, Robert Boyle, and Christopher Wren retired to a coffeehouse for a more relaxed discussion. One of their topics centered on the force of gravity in elliptical orbits at varying distances. Each recognized the concept’s validity, but none of the scientists present could produce a proof. Recalling the conversation months later, Robert Hooke discussed proving such a theory with Isaac Newton. Claiming the proof a possibility, Newton dedicated himself discovering that proof. The discussion was an impetus for Newton to write his famous, *Philosophiae Naturalis Principia Mathematica*, translated into, “Mathematical Principles of Natural Philosophy.”²⁵

History does not lack for a sense of irony, as Newton personally disregarded coffeehouse discussions of physics and mathematics as unsophisticated. Yet it was exactly those lowbrow conversations in the

²³ Joseph Addison, “The Spectator Vol. 1,” *Project Gutenberg*, March 12, 1711, accessed April 13, 2015, <http://www.gutenberg.org/files/12030/12030-h/12030-h/SV1/Spectator1.html#section10>.

²⁴ “The Internet in a Cup,” *The Economist*, December 18, 2003, accessed April 13, 2015, <http://www.economist.com/node/2281736>.

²⁵ Standage, *Writing on the Wall*, 114–115.

coffeehouses which continued to produce scientific and industrial advancement. Willing to go beyond the university lecture halls, physicist James Hodgson conducted a series of lectures at coffeehouses, located within reach of the Royal Exchange, a hub of financial activity in London.²⁶ By deliberately seeking to mix the social networks of scholars and tradesmen, in particular sailors and ship captains, through his coffeehouse lectures, Hodgson furthered industry, commerce, and science. Navigational precision was of particular interest to both mathematicians and sailors in the early 18th Century.²⁷ Unlike the aristocratic Royal Society, the hallowed house of British scientists that looked down its nose at tradesmen, Hodgson understood how scientific experimentation should complement practical applications.

Coffeehouses, the social media of 17th and 18th Centuries, brought together varying professions, which otherwise would not have interacted.²⁸ This professional integration brought about scientific progress and industrial efficiencies.

From Cicero to Isaac Newton, social media served as the primary method communities of people used to interact. The horizontal method of passing news spread through communities via overlaps in their differing members, much like a Venn diagram. As technology increased, so did the speed and reach of social media as evidenced by transitioning from scribes to printing presses. In the 19th Century however, technology began a journey that suppressed the need and use of social media. Printing press upgrades, followed by the telegraph, radio, and television ushered in an era of mass media, relegating the necessity of the centuries old practice of social media as a source of information and interaction.

²⁶ Larry Stewart, “Other Centres of Calculation, Or, Where the Royal Society Didn’t Count: Commerce, Coffee-Houses and Natural Philosophy in Early Modern London,” *The British Journal for the History of Science* 32, no. 2 (June 1999): 142–143.

²⁷ Stewart, “Other Centres of Calculation,” 148–149.

²⁸ Stewart, “Other Centres of Calculation,” 153.

Broadcasting Assumes the Throne

The design of Johannes Gutenberg's printing press did not stagnate after its creation. The printing industry continued to improve its design and garner ever-increasing efficiencies. Altering typecasts and increasing the speed of the press through steam power were two methods of improving the design of the printing press. Regardless, neither advance changed the printing profession like the invention of the cylinder press. Instead of using the flatbed press, a holdover technique from Gutenberg's time, the cylinder press used cylindrical drums to imprint a copy onto the paper. In 1847, the cylindrical press printed 8,000 sheets per hour—redefining mass copying, it transformed newspaper printing from local shops to a worldwide industry.²⁹ Alongside the cylinder printing press, a new business model for newspapers emerged.

Early 1800s American newspapers predominantly resided in the realm of political parties and commercial interests. These two segments of the polity targeted the upper echelons of society. The standard cost of these papers was six cents, at a time when the average American made less than 85 cents per day. At that time, Americans were unwilling to part with 7% of their net income to receive the news. With such high costs, circulation rarely rose above 1,000 subscribers, and very few of those subscribers came from the middle and lower class of society.³⁰ Instead, those classes continued to rely on social media outlets for their information.

Into this mass media void entered the entrepreneurial penny newspaper business. Its pioneers, Benjamin Day and James Gordon Bennett, started the *New York Sun* in 1833 and *New York Herald* in 1835, respectively. Day succinctly summed up their business model: to

²⁹ John Trebbel, *The Compact History of the American Newspaper*, 1st ed. (New York, NY: Hawthorne Books Inc, 1966), 93.

³⁰ Michael Schudson, *Discovering the News: A Social History of American Newspapers* (New York, NY: Basic Books, 1967), 14–15.

“lay before the public, at a price within the means of every one [sic], all the news of the day, and at the same time offer an advantageous medium for advertisements.”³¹ By charging only a penny, they hoped to increase circulation, drawing in more advertising. Their model bore some resemblance to the model Cicero utilized to sell his writings. In addition to the price, Day and Gordon also made their newspapers available daily, rather than forcing a subscription. Their rationale sought to take advantage of the fickle customer that might seek a newspaper one day, while being disinterested the next. They sold their newspapers on the streets by outsourcing distribution to “newsboys.” Purchasing stacks of 100-penny papers for 67 cents (non-refundable), the “newsboys” peddled their product on the streets to make their profit.³² The penny paper model performed brilliantly. In the process however, the horizontal passing of information began turning vertical.

When the *Sun* began in 1833, the combined circulation of New York’s eleven non-penny papers stood at 26,500. Two years later, the combined circulation of the *Sun*, *Herald*, and another penny paper, the *Evening Transcript* totaled 44,000.³³ The penny paper’s significant advantage in circulation began the process of news source consolidation. Just as the cylindrical press pushed local printers out of business, the large newspapers began buying out its smaller competitors. This consolidation eliminated all but the wealthy as a producer of mass information. Newspapers became a big business. Whereas James Bennett started the *Herald* in 1835 for \$500, by the turn of the century, a newspaper looking to break into the market needed one-million dollars.³⁴ Capitalism and the free market shrunk and merged news sources. Across the big cities in America, such as New York, Chicago,

³¹ Paul Starr, *The Creation of the Media: Political Origins of Modern Communications* (New York: Basic Books, 2004), 131.

³² Starr, *The Creation of the Media: Political Origins of Modern Communications*, 132.

³³ Schudson, *Discovering the News: A Social History of American Newspapers*, 18.

³⁴ Trebbel, *The Compact History of the American Newspaper*, 209.

Philadelphia, and Baltimore, businessmen such as Frank Munsey made a living buying and consolidating newspapers. Newspapers such as the *Sun* had come full circle, consumed by the business model they created. With circulations constantly increasing, mass media was overcoming social media as people's predominant information source.

While James Bennett and Benjamin Day were increasing the breadth of news available to the population, the telegraph was increasing the speed at which it traveled. Despite all the increases in the written word, from Roman papyrus to the cylindrical printing press, the speed at which information traveled was still limited to the speed of a train on land or a ship across the oceans. Visual methods existed; the semaphore system of flags and towers could pass messages over great distances, but these were limited to daylight and good weather. Information needed to flow faster.

The solution to faster information came from an unlikely source, Samuel Morse. An aspiring artist, Morse was away on a business trip in 1825 when his wife suddenly died. Unable to receive notification of her death until after the burial, he was determined to increase the speed that news traveled.³⁵ It took Morse twelve years to create the telegraph, which he patented in 1837. Despite proving the concept of sending electrical current across wire as a method of communication, many considered his invention as nothing more than a scientific toy. It took Morse seven additional years to convince the critics otherwise. Employing a method popular with defense contractors today, Morse turned to Congress to sell his invention. On 1 May 1844, the Whig Party held its party convention in Baltimore. Morse saw an opportunity to prove his telegraph could relay the news of the party's new delegates faster than a locomotive carrying the same information. Despite the nearest telegraph station being 15 miles from the convention, Morse was

³⁵ Tom Standage, *The Victorian Internet: The Remarkable Story of the Telegraph and the Nineteenth Century's On-Line Pioneers* (New York, NY: Walker and Co, 1998), 25.

able to have an individual take the nominees to that station and relay them to Washington D.C. a full 64-minutes faster than the messenger by train.³⁶ After this display, telegraph wire and stations dotted the United States landscape.

The telegraph created a faster way to pass information across land. However, as both Europe and North America built telegraph stations throughout their continents, communications between the two still depended upon sea transportation. Cyrus Fields, a New York businessman, created the London Electric Telegraph company in May 1854 with the intention of laying a trans-Atlantic telegraph cable to connect the two continents.³⁷ His endeavor, started with hope, suffered setbacks and a sense of false optimism. Even the successes turned into failures. Despite a successful cable laying operation in August 1858, the line permanently failed after transmitting only a few test messages. Field's saw his victory within grasp, only to have fate tear it away at the last second. It took another six years before a second successful cable-laying operation occurred. This time however, in September 1865, the lines stayed active.³⁸ Messages flowed back and forth; North America and Europe could pass news and information in minutes instead of weeks.

The monopoly of trans-Atlantic communication via wire was short-lived. Less than four decades later, in December 1901, Italian Gugliermo Marconi shocked the world by transmitting a Morse code message 2,000 miles across the Atlantic Ocean without wires.³⁹ The radio age began at the turn of the 20th Century. Unlike the wired telegraph, which depended on stations to relay messages, radio was an omni-directional device. A single station could reach unlimited terminals over a specified

³⁶ Standage, *The Victorian Internet*, 48.

³⁷ Lewis Coe, *The Telegraph: A History of Morse's Invention and Its Predecessors in the United States* (Jefferson, N.C: McFarland, 1993), 98.

³⁸ Coe, *The Telegraph: A History of Morse's Invention*, 99–101.

³⁹ Stanley Leinwoll, *From Spark to Satellite: A History of Radio Communication* (New York, NY: Scribner, 1979), 1.

area simultaneously—broadcasting. In 1916, David Sarnoff, an employee of the American Marconi Company (but future executive at the Radio Company of America), envisioned a plan that would put a radio in every household.⁴⁰

At radio's outset, broadcasts were limited to local areas; at best, they reached an entire city. It did not take long for companies to expand the receiving area for their radio broadcasts. The first multi-city broadcast occurred in 1923 when a New York station pushed their programming over telephone wire to a Boston station for the rebroadcast of the New York programming. The next year, the nation, from coast-to-coast, heard an address from President Coolidge through an agreement from multiple radio broadcasting stations.⁴¹ As radios penetrated the American household market, its influence grew. Sarnoff's vision came to fruition in the 1930s. From 1925-1935 radios went from an average of one per five households to averaging one per home.⁴² Mass media began its pervasive rise in society. People were no longer dependent upon their social networks for information; what newspapers began continued with the radio. Two-way passing of news was becoming increasingly one-dimensional.

Orson Welles' radio production of "War of the Worlds" demonstrated broadcasting's influence over the masses. Aired on Halloween Night, 1938, Welles used his usual cast of radio voice actors to portray a Martian invasion of New Jersey. To avert any mistaking of his program for reality, Welles aired a disclaimer at the beginning of the program reaffirming the fictitious nature of what listeners were about to hear. Those who tuned into the broadcast from the beginning received his warning. However, individuals that tuned in after Welles' initial

⁴⁰ Leinwoll, *From Spark to Satellite*, 83.

⁴¹ Leinwoll, *From Spark to Satellite*, 95.

⁴² Margaret A. Blanchard, ed., *History of the Mass Media in the United States: An Encyclopedia* (Chicago, IL: Fitzroy Dearborn, 1998), 570.

message believed the broadcast was an actual event.⁴³ The results were astonishing. Of the 6 million listeners who tuned into the show, 1.7 million people believed it to be true.⁴⁴ In the area around Trenton, New Jersey, where the fictitious event took place, people called the police and streamed out of their homes with gas masks and handkerchiefs covering their mouths to avoid the Martians' poisonous gas. The historical examples of social media could never have garnered the same reaction as Welles' radio broadcast. The content of Welles' show is what caused individuals to panic, but it was the pervasiveness of mass media that caused the riotous behavior afterwards. Radio became the most powerful instrument of mass communication in America; it permeated people's lives.⁴⁵ Television reached even greater heights.

Before radio even began its explosive expansion in the 1930s, David Sarnoff dreamed of another broadcasting medium. In 1923 he stated, "I believe that television...will come to pass in due course...[and] will make it possible for those at home to see as well as hear what is going on at the broadcast."⁴⁶ Newspapers and radio confirmed America's insatiable desire for news and information. Television was a natural progression to fulfill the information desires of the public. A seminal moment in television's development happened during the 1939 World's Fair in New York. Now an executive at the RCA Corporation, Sarnoff debuted the television at the fair on 20 April 1939. He accompanied its debut with an address to the fair attendees, stating the television showed, "the unwillingness of man to remain satisfied with the models of our present civilization."⁴⁷ His address not only reiterated the technical ambition that drove the television, but also foreshadowed the same

⁴³ Robert J. Brown, *Manipulating the Ether: The Power of Broadcast Radio in Thirties America* (London: McFarland & Company, Inc., 1998), 207.

⁴⁴ Brown, *Manipulating the Ether*, 219.

⁴⁵ Brown, *Manipulating the Ether*, 255.

⁴⁶ Leinwoll, *From Spark to Satellite*, 153.

⁴⁷ Retro Video: Birth of TV at World's Fair, 2010, accessed April 14, 2015, https://www.youtube.com/watch?v=U4hPX_PLCo&feature=youtube_gdata_player.

ambitions that generated the Internet 60 years later. The dawn of the Internet era was yet to come; at the 1939 World Fair, the television era was just beginning.

The outbreak of World War II however, stymied its development. In 1946, the marketing of television started with a trickle, only 10,000 television receivers were in use throughout America.⁴⁸ That trickle however, quickly turned into a waterfall. Newspaper and radio whet America's appetite for mass media. Americans wanted the television. In 1942, an amazing 85% of Americans knew what the television was despite only 18% having ever seen one.⁴⁹ The publicity television garnered at the World Fair contributed to its awareness by the majority of Americans. The initial growth of television was modest in its first few years, only reaching 10% saturation of American households by 1950. Regardless of its slow start, the 1950s were the golden age of television for good reason. From 1950 to 1955, household saturation soared from 9% to over 75% and increased to 87% in 1960. Americans were not satisfied with a single television, 12% of American households in 1960 purchased a second television set for their home.⁵⁰ Social media, in its current form, stood little chance of competing with the juggernaut of mass media.

For centuries, societies utilized social media, and its horizontal network, to convey and receive information among their communities. The technical revolutions of the 19th Century changed the model of information passing. The advent of inexpensive newspapers, broadcasting radios, and television programing ushered in the era of mass media. Horizontal communication faded in the shadow of the new vertical communication methods. Not all shared in the brilliance of the

⁴⁸ George Comstock and Erica Scharrer, *Television: What's On, Who's Watching, and What It Means* (New York, NY: Academic Press, 1999), 1.

⁴⁹ Standage, *Writing on the Wall*, 210.

⁵⁰ Comstock and Scharrer, *Television: What's On, Who's Watching, and What It Means*, 7. See Blanchard p. 644 for graphical representation of the data.

new mass media era. Cultural critic and author Neil Postman compared the age of television to Aldous Huxley's book *Brave New World*, with television replacing the anesthetizing drug SOMA. People did not need to interact with each other; television could do what society had done for centuries. As philosophical icon Homer Simpson suggested, "Let us all bask in television's warm glowing warming glow [sic]."⁵¹ America was happy to comply—it had its technology. Yet while technology relegated social media to the margins, technology also brought it back.

The Internet and World Wide Web: Social Media Returns

Formed in 1969, the Advanced Research Projects Agency Network or ARPANet was the genesis of the Internet, despite any claims by former United States Senators or vice presidents. The idea for an internetworked communications system began in the 1950s as part of the Cold War and the threat of Soviet nuclear weapons. In the advent of a Soviet first-strike nuclear attack, the United States needed the ability to survive and respond in kind. RAND analyst and noted strategist Bernard Brodie confirmed this statement when he argued the essential component of deterrence was ensuring the "survival of a retaliatory force of adequate size following an enemy attack."⁵² One element required to carry out the prescribed retaliatory attack was a survivable communications network. The communications needed a distributed network of survivable nodes with sufficient redundancy to avoid isolation in the event of a Soviet first strike.⁵³ These thoughts formed the requirement for the ARPANet project.

ARPANet had a broader purpose beyond its nuclear war

⁵¹ Jim Reardon, "Treehouse of Horror V," *The Simpsons* (Fox, October 30, 1994).

⁵² Bernard Brodie, *Strategy in the Missile Age* (Santa Monica, CA: Rand Corp, 2007), 283.

⁵³ Peter J. Denning, The ARPANET after Twenty Years, Technical Report (Research Institute for Advanced Computer Science, September 20, 1989), 2.

expectations. In addition to ensuring continuity of nuclear forces, ARPANet focused on connecting ARPA's powerful computing centers and engineers. Started at UCLA in 1969, ARPANet initially connected four disparate locations across the United States; four years later the network had grown to 37 nodes. It grew each year of its existence. When it finally decommissioned in 1989, ARPANet comprised over 60,000 separate nodes.⁵⁴ Despite the high growth rate over its initial two decades, the Internet was still far from capable of penetrating a majority of American society. Rather, the denizens of the Internet tended to be technical professionals and amateur enthusiasts. Even within this limited constituency, the Internet provided the spark social media needed to begin its rise from the ashes. The Internet created on-line communities and facilitated person-to-person information distribution. E-mail provided the most pervasive form of information sharing on the early Internet/ARPANet. Even though it was not ARPANet's *raison d'être*, by 1971 e-mail accounted for the largest amount of traffic on the network and served as the primary tool supporting collaboration.⁵⁵ E-mail could connect communities of people; however, the method of doing so was cumbersome as unlike e-mails of today, early e-mail protocols only allowed mail to flow between two individuals per message.

The on-line community's need to share information with a wider audience led to the creation of Usenet in 1979, which distributed Internet discussions worldwide. Like its contemporary, the Bulletin Board System (BBS), Usenet supported message posting and retrieval from its hub, a central server. Each solution provided an upgrade to the linear "send and receive" functionality early e-mail protocols provided. Unlike BBS however, which was a system consisting of only a single hub and spoke, Usenet connected multiple hubs to provide wider distribution

⁵⁴ Denning, The ARPANET after Twenty Years, 1.

⁵⁵ Denning, The ARPANET after Twenty Years, 4.

to its messages.⁵⁶ Instead of a community limited to only one hub and spoke, Usenet fostered interaction among different communities by linking together different hub servers. Even with the upgraded performance Usenet and BBS provided over e-mail, the Internet still lacked a real-time discussion feature. The Internet Relay Chat (IRC) programming solved the problem of real-time discussion. Created by Finnish programmer Jarkko Oikarinen in 1988, his IRC program filled the Usenet gap he saw related to real-time communications. IRC was a resounding success, as evidenced by its longevity.⁵⁷ 27 years after its creation, the program is still a staple of on-line communities. The program is so robust that the US military still uses the program extensively. Army tactical operation centers and selected Air Force assets use IRC as one of their primary communication systems. As these architectures and programs succeeded, the public became more aware of their existence. Yet the technical knowledge required to use IRC, Usenet, and BBS, left these tools as largely unviable to the typical American consumer.

CompuServ was the first system to bring the Internet to mainstream American society. Started in the 1970s as a business mainframe, the company crossed into the public domain during the late 1980s and began providing to the public what had generally been restricted to the Internet enthusiast.⁵⁸ It consolidated the features of the previous programs, IRC, BBS, and Usenet, within a single entity. Discussion groups, e-mail (new to the public), and IRC type chat programs opened the public to the same on-line interaction early Internet users enjoyed for the previous decade. CompuServ was a big step for the common-user's ability to access and utilize the Internet, but the World

⁵⁶ Dr. Rajendra Patil and Sajithra K, "Social Media – History and Components," *Journal of Business and Management* 7, no. 1 (February 2013): 70.

⁵⁷ Patil and K, "Social Media – History and Components," 71.

⁵⁸ "The History of Social Media | Digital Trends," August 5, 2014, accessed November 10, 2014, <http://www.digitaltrends.com/features/the-history-of-social-networking/>

Wide Web (WWW) is what fueled the stratospheric rise of Internet usage.

By the early 1990s, more people were finding themselves on the Internet, but data sharing and navigation of the Internet was clumsy and not “user-friendly.” When British programmer Tim Berners-Lee created the WWW, along with its HyperText Protocol Markup Language (HTML) and the HyperText Transfer Protocol (HTTP), he revolutionized the Internet. Prior to the WWW navigating the Internet required writing commands, Berners-Lee created the “point and click” everyone is familiar with today. With the WWW going live in 1991, the number of Internet users jumped from 600,000 to 40 million in two years.⁵⁹ The release of the Netscape web browser in 1995 though, is what truly made the WWW accessible to the public. With its release, Netscape made “surfing the web” part of the vernacular. In the mid-1990s, Netscape became synonymous with exploring the Internet. It searched for content with a simple point, type, and click, removing the need to understand computer languages and commands. Unleashing the connective power of the Internet through the WWW was instrumental in creating a social media renaissance. *New York Times* journalist Thomas Friedman listed the release of Netscape as the #2 force that “flattened the world” behind only the fall of the Berlin Wall.⁶⁰

The WWW virtually recreated the coffeehouses of the 17th and 18th Centuries. In place of multiple tracts and pamphlets scattered across tables, the WWW provided websites, which served the same purpose. HTTP, a portion of the WWW suite of protocols, simplified the process for individuals to view each other’s websites, see opinions, leave remarks, or create their own page.⁶¹ Person-to-person information passing, dormant after the rise of mass media, started a resurgence. The

⁵⁹ Thomas L. Friedman, *The World Is Flat: A Brief History of the Twenty-First Century*, (New York, NY: Picador, 2007), 60–62.

⁶⁰ Friedman, *The World is Flat*, 60.

⁶¹ Charles Jonscher, *The Evolution of Wired Life: From the Alphabet to the Soul-Catcher Chip: How Information Technologies Change Our World* (New York, NY: John Wiley and Sons, 1999), 161.

personal accessibility individuals gained through the WWW opened the door for social media to re-emerge. Sharing interests with new on-line communities became a reality, as did reconnecting past relationships. The website Classmates.com was the first website designed to capitalize on reuniting old acquaintances. Launched in 1995 and still active today, the website does not give its customers the ability to create communities, but rather allows them to reconnect with old classmates.⁶² Classmates.com was the first of its kind, but it was only the beginning. Social media's relationship with its new medium, the Internet, would continue to evolve.

Web logs or blogs emerged as a natural by-product of the web. Blogs, designed for posting people's opinions and ideas, first came into being in 1997, and grew slowly. However, as new software increased access for the common user, the pervasiveness of blogs increased.⁶³ At one point during its rise in popularity, blogs became ubiquitous as people viewed them as a status symbol of intellectual gravitas. Many bloggers soon discovered the harsh reality of self-publication. Writing an opinion, and having people read an opinion are two different processes. As a bloggers' webpage visitor counts hovered precipitously close to zero, many soon lost interest in the medium. This fact does not detract from the powerful tools blogs are in the hands of adept and educated bloggers. Despite the needed "culling of the herd," blogs remain *en vogue* as journalism embraces them as a legitimate form of media. In this manner, blogs are an example of an increasing hybridization of social and mass media.

While all the new blog sites, IRC chatrooms, and websites created new communities of shared interests, the format of the WWW still had tendencies similar to a broadcast medium. Unlike a true horizontal

⁶² Michael Simon, "The Complete History of Social Networking--CBBS to Twitter," in *Social Networking* (New York, NY: H.W. Wilson, 2011), 3.

⁶³ Patil and K, "Social Media -- History and Components," 72.

structure of information passing, which resulted in two-way conversations, the majority of individuals using the web were information consumers. Yet, web users were not completely passive consumers, as was the case with television. The WWW of the late 1990s was in a unique situation. It was not purely two-way communications, but neither was it solely a one-way communication method, it rested between the two modes. The WWW provided consumers a volume of information sources that television could never hope to match. Critics will argue that television and radio offered consumers choices as well, Fox News or MSNBC for instance. This is true; but in 1999, there were over 3.1 million websites available to the WWW user.⁶⁴ Even with all the entertainment and sports packages (to watch the Minnesota Vikings lose) television paled in comparison. The massive volume of choice variance available on the WWW presented a significant difference from broadcast television.

Another key difference between the WWW and television lay in its decentralized nature. Due to the freedom and openness of the WWW—as intended by its designers—centralized content authority did not exist. The same was not true for the mass media outlets, newspapers, radio, and television. Despite differing channel names, mass media companies hold a central authority over vast swaths of content. For instance, Disney owns the ABC and ESPN television networks, to include spinoff channels such as ABC Family and ESPN2. Combining these networks with Disney’s already large television presence, results in a large portion of television content residing under a single content authority. As mass media outlets began populating the WWW with their content, they tried to create a similar situation. However, due to the size and accessibility of the Internet, centralized content was little more than tiny islands of

⁶⁴ “Total Number of Websites - Internet Live Stats,” accessed April 14, 2015, <http://www.internetlivestats.com/total-number-of-websites/>.

centralization in the Internet's vast ocean of independent thought and original content. In this way, even though the average Web 1.0 user did not produce content *per se*, with a myriad of web content at their fingertips, they exercised interaction through their web surfing choices.

Around 2005, the average WWW user transformed from a consumer to a “prosumer”—a portmanteau of producer and consumer. The catalyst for this transformation was Web 2.0; a phrase coined by Tim O'Reilly, technology publisher and visionary.⁶⁵ Web 2.0 made the common user more than a consumer; it simplified his ability to place his own content and information onto the WWW. Not all technophiles acknowledge Web 2.0's existence, but despite the protests from fringe opposition, its basic assumptions are accepted and established. Where Web 1.0 was concerned with the connecting to the Internet and WWW, Web 2.0 is concerned about the data content on the Internet and WWW. Access to the Internet is ubiquitous as evidenced by the interconnectivity of everyday society, the aptly named, “Internet of Things.” John Gage, co-founder of Sun Microsystems made a bold statement in 1984, claiming that, “the network is the computer.”⁶⁶ He envisioned a day when mainframes and the desktop computer faded away in the comparative power of data networks. Web 2.0 brought his vision into reality.

Content is king in Web 2.0. Consider a website in 1999: a user finds a website with content she finds useful, using Netscape, she places a bookmark on the site so she can return later. A few weeks later the user clicks on her bookmark, only to find the content unchanged from her previous visit, though the site promises updates are coming! Contrast that situation to a user's Facebook feed in 2015. The user logs on to their feed, views the content for a minute then remembers she left

⁶⁵ Tim O'Reilly, “What Is Web 2.0 Design Patterns and Business Models for the Next Generation of Software,” accessed January 30, 2015, <http://www.oreilly.com/lpt/a/1>.

⁶⁶ Mike Wolcott, “What Is Web 2.0?,” *CBSNews.com*, May 15, 2007, accessed January 30, 2015, <http://www.cbsnews.com/news/what-is-web-20/>.

her coffee in the other room. In the time it takes her to retrieve the coffee, the page updated with three new posts, two new pictures, and an obligatory cat video. Significantly, none of those posts are from Mark Zuckerberg, the owner of the website. In the Web 1.0 world, the ability to alter website content defined a webpage owner; in Web 2.0, with its social networking sites, all users serve as contributing editor. Content is dynamic and user driven—the essence of Web 2.0. Table 2 illustrates a sample of the differences between the consuming world of Web 1.0 and the prosuming world of Web 2.0.

Table 2: Web 1.0 vs Web 2.0

Web 1.0 (Consumer)	Web 2.0 (Prosumer)
Reading	Reading/Writing
Companies	Communities
Owning	Sharing
Lectures	Conversations
Netscape	Google
Screen Cut and Paste	Application Programming Interface (Apps)
Client-Server	Peer-to-Peer

Source: Adapted from Aghaei, Nematbakhsh, and Farsani, “Evolution of the World Wide Web: From Web 1.0 to Web 4.0,” in the International Journal of Web and Semantic Technology, January 2012.

The collaboration inherent in Web 2.0 facilitated the creation of communities of users. Once again, information moved between individuals horizontally instead of relying on the vertical flow of broadcasting. Unlike the transition from social media to mass media in the 19th Century, which severely dampened social media use, the renewal of social media in the late 20th Century, did not eliminate the presence of mass media. Today’s information environment is a hybrid solution between top-down and side-to-side flows of information. Through the technological development of the Internet and WWW, social media returned as a valid methodology to receive and propagate information.

Use of social media is pervasive throughout history. Some of the greatest minds and leaders used social media as a means to achieve their ends. Though their methods differed, each utilized social media as a tool. Cicero used it to collaborate with friends and colleagues in Rome, giving him a better understanding to formulate his politics. The Apostle Paul and Martin Luther, separated by over one thousand years, both used social media to spread their ideas and teachings, despite a significant variance in technology. Coffeehouses, social media of the 17th Century, in no small part drove Sir Isaac Newton to publish his proof of gravity. Social media did not create each man. In his own rights, each was brilliant regardless of social media, yet he harnessed its abilities as an additional means to achieve his goals. The same opportunities the giants of the past utilized still reside in social media today.

The new combination of social and mass media presents opportunities for the military strategist. Aristotle lamented the written word as inferior to the spoken word.⁶⁷ To him a man who learned only from books appeared omniscient yet did not have real knowledge. The difference to the great philosopher was the inability of books to respond to questions. He was referring to the process of intellectual interaction for self-improvement. In a way, Aristotle viewed the reading of books as a one-way source of communication. To him, a man ought to seek the interaction of two-way communication to achieve true wisdom. Social media provides such interaction. Many organizations have already harnessed social media as a supplement to time-tested pedagogical methods. The next chapter provides current examples of social media's effects on professionals outside the DOD.

⁶⁷ Jonscher, *The Evolution of Wired Life*, 37.

Chapter 3

Social Media in the Modern World

The intelligent man is always open to new ideas. In fact, he looks for them.

Proverbs 18:15, TLB

Globalization and technology allow modern social media to reach a wider audience compared with its historical predecessors. Regardless of whether social networking sites (SNS) or Cicero's papyrus scrolls are the medium of choice, social media retains a consistent essence. It passes information from person to person along social connections. A brief review of its history reveals many benefits. Social media spread messages and gathered information, as well as created and maintained communities of practice. To an increasing degree, professionals have availed themselves of the benefits of social media. Of interest for the strategist is the benefit social media provides to lifelong learning, an on-going, self-driven desire of individuals to improve themselves, either for professional or personal reasons. Professionals understand that the process of learning does not end after receiving their degree or credentials. The horizontal interaction of social media is an efficient method of increasing one's knowledge base without the time commitment of traditional education. This chapter analyzes the use of social media by the medical field and in academia for the betterment of individual professionals and the profession as a whole. Analyzing these examples may suggest a method for using social media to develop and enhance the military strategist's proficiencies.

Teaching Old Professionals New Tricks

Due to the ubiquity of social media in modern society, people often exaggerate its importance. As the previous chapter's blog example described, simply presenting ideas through a Twitter account or a blog site does not mean those ideas will spread or even be read. One's presence on social media does not guarantee anything outside of one's presence on social media. As an example, many extremist groups maintain a large presence on the Internet, in particular on social networking platforms. Too frequently, news sources and readers conflate their presence on social media as inherently translating into a recruiting advantage. ISIS, for instance, has an extensive social media "footprint," but it is far from the recruiting juggernaut the media portrays. Social media presence does not guarantee success. An SNS account attributed to ISIS that retweets an atrocity video or rails against the United States government does not equal an individual willing to join the group on the front lines.¹ This is not to imply social media has not helped ISIS's recruiting process; it has, but hardly to the degree many people believe. Social media is not a binary function; presence does not guarantee successful endeavors any more than absence from it guarantees failure.

The usefulness of social media depends on applying it a proper context. The previous chapter revealed diverse uses of social media throughout history. The common theme in each example was the ability of individuals to use social media properly, given their particular situation. As an example, Cicero used the *acta diurna* to get his news, but he delivered his thoughts to the senate in person. He realized the social media of the day would be ineffectual compared to other methods. A skilled orator, Cicero's speeches on the senate floor delivered powerful statements. Had he used social media to achieve the same results, it

¹ Kathy Gilsinan, "Is ISIS's Social-Media Power Exaggerated?," *The Atlantic*, February 23, 2015, accessed February 23, 2015, http://www.theatlantic.com/international/archive/2015/02/is-isiss-social-media-power-exaggerated/385726/?utm_source=SFTwitter.

would have been ineffective. Cicero did not need social media to spread his messages to the senate; he did however, need social media to gather information from around the empire. Cicero analyzed the context of the situation, and used social media where it was best suited to accomplish his end goals. The same principle applies to social media use today. From advertising to market research, those who properly wield the tool of social media are more likely to reap its benefits. Yet social media is not simply a marketing tool; it can assist in professional development. In this context, social media stands astride the confluence of three aspects of professional development: lifelong learning, self-development, and communities of practice.

Adult education is central to all three aspects of professional development. However, educating adults and educating youth do not share the same methodologies. Adults do not respond to the same educational stimuli as those in primary and secondary schools. Malcolm Knowles recognized these differences. As a pioneer in andragogy--the science of adult learning--spent his life's work developing effective ways to educate adults. Knowles ultimately identified six key assumptions about educating the adult learner:

1. *The Learner's Self-Concept:* Adults focus on self-direction, not dependency. Whereas younger students take the tests and learning methods their instructor gives them, adults want a choice in what they learn, when they learn it, and a voice in the evaluation process.
2. *The Role of the Learner's Experiences:* Adults accumulate reservoirs of experience; they are the richest source of learning within the adult. Adults in education often will refer to their own experiences vice the educators or the material presented. Adult educators must tap into the experiences of her adult students to give herself credibility in addition to relating the material more effectively.
3. *Orientation to Learning:* The readiness of an adult to learn relates closely to his or her social role. An adult

may never have a desire to learn sign language, yet if that same adult has a child born deaf, their learning desire toward sign language quickly changes. Similarly, if one spouse develops diabetes, the other spouse almost instantaneously has a desire to learn how to cook and shop for a more healthy diet.

4. *Readiness to Learn:* Time perspective changes as people mature—adults want knowledge to result in immediacy of application. Adults are less concerned about the future than younger students are. Adults want their information to be valuable for immediate employment. The longer it takes the seeds of education to blossom into value, the less willing adults are to engage in education.
5. *Motivation:* Internal motivations drive adults more than external factors. In certain circumstances, adults learn through external motivators, such as new equipment on the job site or a new computer system. In the majority of adults however, internal factors such as a personal sense of accomplishment or a desire to increase their quality of life drives education demand.
6. *The need to know:* Adults want to know why they need to learn something. If learning a new task does not improve on “the way things have always worked,” an adult will be less likely to engage in the learning environment, as they do not see the benefit of learning outweighing the cost of the time invested.²

Knowles presented six diverse assumptions, yet an overarching theme appears. Adults need to recognize the urgency for and ultimate result from education if they are to spend time in the classroom environment. Professionals, concerned with mastering their craft, relate to all six of Knowles’ assumptions. Notably, four of Knowles’ assumptions center on a key professional characteristic: self-development. The professional constructs her self-development with an awareness of her experiences, coupled with what she needs to know for

² Carrie Ota et al., “Training and the Needs of Adult Learners,” *Journal of Extension* 44, no. 6 (December 2006), <http://www.joe.org/joe/2006december/tt5p.shtml>.

her job responsibilities.³ The professional is internally motivated to master her craft—to do so; she understands that learning is a journey, not a destination. For professionals, lifelong learning is the engine of self-development.

There is a distinct difference between the concept of continuing education and lifelong learning. The term continuing education connotes a more formalized education process, one that includes classrooms (real or virtual), syllabi, and a teacher-student learning model. Similar to a broadcast approach of passing information, the teacher-student relationship is a top-down information model. Even though two-way dialog exists in the teacher-student relationship, as students can ask questions, the majority of instruction resides with a single point, the instructor. He controls the classroom instruction format as well reading materials and assignments. Continuing education utilizes a centralized approach to pass information. In no way does the centralized instruction method construe a fundamental flaw in continuing education. As Chapter 1 highlighted, a formalized education process plays an important role in developing strategists. In many contexts, the vertical method of teaching is preferred.⁴

If continuing education passes knowledge and information vertically, lifelong learning uses the horizontal method. Focusing on a self-directing and informal learning, it alters two methods of the continuing education model.⁵ Both stand in direct contrast to the top-down approach. First, lifelong learning shifts the knowledge flow from a single, expert individual to knowledge emanating from a group or

³ Catheryn Cheal, “Teaching and Learning with Social Media,” *E-Mentor* 42, no. 5 (2011): 96.

⁴ Derek Newton, “Higher Education Is Not a Mixtape,” *The Atlantic*, January 27, 2015, accessed January 27, 2015, <http://www.theatlantic.com/education/archive/2015/01/higher-education-is-not-a-mixtape/384845/>.

⁵ Sharan B Merriam, Rosemary S Caffarella, and Lisa Baumgartner, *Learning in Adulthood: A Comprehensive Guide*, 3d ed. (San Francisco: Jossey-Bass, 2007), 47-48.

community. A tenet of lifelong learning is that no single individual has all the answers on a given subject, but they do have answers within that subject. Groups of individuals, each with their own knowledge on a subject, create a greater repository of knowledge than a single individual. Additionally, the individuals providing the information are not required to be recognized experts.⁶ Accomplished individuals may provide a greater breadth or depth of information, but this lifelong learning recognizes the ideas of the amateur alongside those of the expert. Jigsaw puzzles provide an analogy. Even though some puzzle pieces reveal more of the entire picture, no single piece reveals everything. It is only the community of all the pieces together that reveals that the entire picture. Similarly, in lifelong learning it is the group, which corporately possesses the greater knowledge.⁷ Second, lifelong learning views knowledge itself as dynamic. This does not denounce formal education's curricula as static; continuing education recognizes the forward movement of knowledge. Yet the bureaucratic tendencies of formal education do not engender flexibility. Lifelong learning adjusts more rapidly to a dynamic knowledge set. With a group environment, any individual can incorporate and propagate new knowledge. The lifelong learning concepts of collective wisdom and dynamic knowledge place the adult in charge of his education, which is exactly as Knowles prescribed.⁸

In Knowles' assumptions, the professional (adult) student self-directs his learning. He assumes the responsibility of what to learn, why to learn, when to learn, and who to ask. He provides answers to these questions based his own situation and experiences.⁹ General

⁶ K.P. King, "Professional Learning in Unlikely Spaces: Social Media and Virtual Communities as Professional Development," *International Journal of Emerging Technologies in Learning* 6, no. 4 (December 2, 2011): 41.

⁷ James Surowiecki, *The Wisdom of Crowds* (New York, NY: Anchor Books, 2005), xxi.

⁸ Nancy M. Dixon, *Common Knowledge: How Companies Thrive by Sharing What They Know* (Boston, MA: Harvard Business School Press, 2000), 148–149.

⁹ Lisa Powers et al., "Perspectives on Distance Education and Social Media," *Quarterly Review of Distance Education* 13, no. 4 (2012): 245.

developmental frameworks exist, but only the professional understands his specific requirements. He may elect to satisfy these requirements through continuing education or he maintains the option to pursue the lifelong learning method. Exercising both methods together constitutes a third option, as continuing education and lifelong learning are not mutually exclusive. They are not an either/or proposition, in fact, they often complement each other during the professional development process. The military strategist requires both forms of education. The professional military education system, alongside advanced degrees, represents the bulk of a strategist's formal education. Lifelong learning plays a large role in a strategist's self-development during the years outside of formal education. It also provides an avenue to gain experience.

Experiences occur naturally within a strategist's career. Whether it is through formal education, lifelong learning, or daily operations, over the length of a career, a strategist acquires a considerable body of experience. Yet as considerable as the body of experience might be, there are always experiences the strategist has not encountered. No single individual experiences all life has to offer. The most successful strategists seek experiences outside their own as part of their development. An officer seeks these additional experiences as a means of self-development. Despite the misnomer of "self" development, the process is more valuable inside a group.

Communities of practice (CoPs) serve as a mechanism for lifetime learning and self-development. CoPs exist as groups of individuals who share a concern or passion regarding a craft. Three core concepts separate a community of practice (CoP) from a community of people: its

domain, its community, and its practice.¹⁰ First, the domain establishes the shared identity of the CoP members; it is the group's focal point. Domains vary greatly. A domain can be as specific as orthopedic surgery or as broad as motorcycle riding. Second, CoP members must have a commitment to the shared domain. The core concept of community is self-evident. Individuals do not constitute a community, as a community necessitates interaction among individuals. Additionally, community mandates neither daily nor scheduled interaction, but CoP members must experience interaction. Lastly, the core concept of practice necessitates more than simply liking the same football team. With the concept of practice, the domain must revolve around "doing" an action. Practice is what maintains a baseline of common knowledge and terminology. CoPs must contain the core concepts of domain, community, and practice. Within CoPs, lifelong learning and self-development find fertile ground.

Sociologist Etienne Wegner identified learning as a fundamentally social function. People's deep desire to interact and associate with one another propagates knowledge and learning.¹¹ As adults form CoPs and socially engage with one another, learning takes place naturally. Learning is so inherent to social interaction that it often goes unrecognized.¹² Regardless of whether interaction is scheduled or ad hoc, as CoP members interact, they expand each other's knowledge. Learning through a CoP comprised what Wegner described as the "road and destination," an ever-changing process toward which its members strive and contribute, but never arrive.¹³ CoPs and its members must

¹⁰ Etienne Wegner, "Communities of Practice: A Brief Introduction" 2011, accessed February 25, 2015, <https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/11736/A%20brief%20introduction%20to%20CoP.pdf?sequence=1>.

¹¹ Etienne Wenger, *Communities of Practice: Learning, Meaning, and Identity* (Cambridge, UK: Cambridge University Press, 1998), 3.

¹² Michael Eraut, "Informal Learning in the Workplace," *Studies in Continuing Education* 26, no. 2 (July 2004): 249.

¹³ Wenger, *Communities of Practice*, 95.

update and adapt their knowledge to improve best practices and learn new techniques.

Economics and business provide illustrations of the importance of continual learning and adaptation. In a general sense, tradesmen need to stay relatively abreast of the latest techniques and procedures. A mechanic that does not maintain her knowledge on the latest transmissions or engines makes herself obsolete. She may be the greatest mechanic on the Pontiac Tempest and Buick Skylark, but if she does not update her knowledge and skills to modern vehicles, she cannot survive as a mechanic. Blockbuster Video did not learn or adapt to the latest information. Dominant in the video rental business during the 1980s and 1990s, the company went bankrupt after failing to incorporate the new knowledge of video streaming technology into its business model. A CoP and professionals should strive to be Netflix, not Blockbuster.

Traditionally, CoPs coalesced within physical localities. This practice is still common today; through the Internet however, these “local” CoPs spread to all areas of the globe. CoPs have always been a vessel for social media. They embody the passing of information between individuals through social interaction. Where previous iterations of social media limited the range to which individuals could form a CoP, the same does not hold true. The Internet fundamentally changed the reach and frequency of CoPs interaction while the WWW offers increased opportunities for information sharing through its communication paths.¹⁴ Unbound by the limits of physical presence, CoPs expand and incorporate new members. As new social media technologies grow to create CoPs, it provides an avenue for professional development.¹⁵

Social media facilitates self-development and lifelong learning by

¹⁴ Marvin LeNoue, Myron A. Eighmy, and Tom Hall, “Adult Education and the Social Media Revolution,” *Adult Learning* 22, no. 2 (2011): 9.

¹⁵ King, “Professional Learning in Unlikely Spaces,” 44.

providing interaction within and among CoPs. The exact method of interaction differs depending on the community and its culture. Some CoPs use social media to create new methods of discourse. Other CoPs pass instruction, providing explication to its members. Since membership in a CoP is not proprietary, individuals use social media to spread information between communities. The military strategist's CoP can benefit from social media to foster information flow, knowledge growth, and analytic processes. However, not all methods of social media use necessarily fit into the military culture. Before implementing methodologies for social media, military strategists would benefit from analyzing other professionals' use of social media for lifelong learning and self-development.

Taking the Outside Look

The DOD, like other organizations, is instinctively drawn to what Nobel Prize winning economist Daniel Kahneman refers to as the “inside view.” He described it as willful bias against evidence not originating from personal experience.¹⁶ Despite facts to the contrary, entities blinded by the inside view take the all too common approach of “it will never happen to me,” or “we can avoid the same mistakes.” The underwriting belief of the “inside view” is that only those within an organization know what is best for the organization. To reiterate his argument, Kahnemann retells a personal anecdote from his experience coauthoring a book. Confident in their own ability and unwilling to look outside of their own group, Kahneman’s team did more than set high expectations. They set impossible ones. His team planned to complete the book in two years; the industry average for completing a similar project was seven years, and that was if the project was ever finished—

¹⁶ Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2013), 245.

60% of like projects failed to accomplish their goal. His group did not seek outside knowledge before setting their expectations.¹⁷ These facts were not secret, yet he and his group were not willing to accept any expectations that lie outside their own experiences. There is a built in hubris that drives people and organizations toward the “inside view.” Those able to mitigate that natural tendency rarely have to suffer the wrath of Nemesis.

Applying social media to help develop military strategists is no different. Before plunging into how social media can make the military strategist better, wisdom dictates an analysis of similar professions to glean insights. Learning from outside organizations’ social media successes and failures help avoid creating a methodology based solely on the “inside view.” Analyzing examples of social media use from professionals in medicine and academia provide a way to synthesize a framework for how social media can help develop military strategists while also avoiding the pitfalls an inside view. The medical field and academia provide a suitable sample for analysis, as each are professional organizations with its members committed to communities of practice (CoPs) with the intent of self-development and acquisition of knowledge. They can provide useful insights into how social media can assist in the development of military strategists.

As a corollary to the statement “first do no harm,” medical professionals continually strive to enhance their abilities to treat patients more effectively and efficiently. Their pursuit is a double-edged sword. As medical procedures, research, and knowledge rapidly expand, physicians are finding themselves unable to keep pace. The days when a physician could stay moderately current with multiple fields of medical

¹⁷ Kahneman, *Thinking, Fast and Slow*, 245-249.

knowledge are far in the past.¹⁸ The advances in the medical field are outpacing traditional methods of maintaining currencies in medical practices. Doctors are embracing lifelong learning, specifically the use of SNS, to increase their knowledge base.¹⁹ Efficacy of patient care is a driving factor in the self-development of physicians. They utilize their CoPs to pull information from and distribute information to others. With a goal of delivering the best possible care to patients, social media is increasingly where doctors are going to accomplish that goal. A recent study showed 57.5% of physicians perceived social media as a beneficial and engaging way to get current, high-quality information. Similarly, 57.9% of physicians stated social media enabled them to care for their patients more effectively and six in ten stated it improved the quality of health care service they delivered.²⁰ Social media provided interaction with their community of practice (CoP), increasing their knowledge, updating their practices, and allowing them to improve as physicians.

What exactly did social media do to facilitate these improvements? Dr. A. M. Cunningham lists ten reasons for medical professionals to have a social media presence. According to Cunningham, social media presents physicians the opportunity to: connect by looking outward to harness the power of networking and mutual strength; engage by listening to patients and peers; inform others on the new projects and practices taking place in different hospitals; reflect on the gravity of life and death in the healthcare profession; share the successes and mistakes for others to consider; be challenged in current beliefs and methods to go beyond a comfort zone; be supported in a profession where loneliness is common; lead others to great heights; and learn

¹⁸ Brian S McGowan et al., “Understanding the Factors That Influence the Adoption and Meaningful Use of Social Media by Physicians to Share Medical Information,” *Journal of Medical Internet Research* 14, no. 5 (September 24, 2012).

¹⁹ Sue Pelletier, “Top 10 Questions About Social Media and CME | Social Media Content from MeetingsNet,” August 8, 2011, accessed February 26, 2015, <http://meetingsnet.com/social-media/top-10-questions-about-social-media-and-cme>.

²⁰ McGowan et al., “Understanding the Factors.”

constantly, staying abreast of the latest practices and procedures.²¹ To realize these benefits, the CoP must apply social media in a proper manner—that is, sensitive to the particular context. Two brief examples show how the medical community used social media to share, to learn, and to lead.

The first example relates to a mistake: a doctor performing a routine surgical procedure on the incorrect leg. Unfortunately, the story is not uncommon. However, it does end happily for the medical community and for the patient (who made a full recovery). The incident, as chronicled by anesthesiologist Helgi Johannson in a blog post, followed a pattern very similar to other surgical mishaps. He wrote of an overbooked surgeon combined with inexperienced nurses, failures to double-check actions, and lack of communication. In such a chaotic environment, assumptions ruled the day, and resulted in an incorrect surgical procedure. Following the mishap, the hospital and regulatory agencies conducted their inspections and interviews. As opposed to other cases, upon the completion of the investigations, the hospital where the incident occurred granted permission for those involved to blog about the accident. They shared the experiences with their CoP using social media alongside other traditional medium. To date, over 22,000 people have viewed the story “Wrongfooted,” including many medical professionals.²² Sharing the event allowed other medical professionals to learn from the mistake, develop actions to prevent similar events, and support those who made that particular mistake or similar mistakes in the past. It provided CoP members the opportunity to gain knowledge from others’ experiences and apply it to their own self-development.

Given the proper context, social media can provide a spark for

²¹ M DeCamp and A. M. Cunningham, “Social Media: The Way Forward or a Waste of Time for Physicians?,” *The Journal of the Royal College of Physicians of Edinburgh* 43, no. 4 (2012): 320.

²² “Wrongfooted,” *Storify*, accessed February 26, 2015, <http://storify.com/traumagasd/incorrectleg>.

enormous action. The British National Health Service (NHS) is the fifth largest employer in the world, behind the DOD, Chinese Red Army, Walmart, and McDonalds. Large organizations resist change, yet what started with a tweet between resident doctors and health care administrators, culminated in 189,000 NHS members committed to providing better health care service. They banded together in what became known as “NHS Change Day” on March 13, 2013.²³

Focused too long on quantitative evaluations, the NHS came to emphasize the “machine” of health care, not the product. Hitting a targeted time for treatment became more important than ensuring the patient received an accurate diagnosis. The ethos of NHS Change Day was to empower employees; it sought to eliminate a culture of always asking permission, especially when the action involved a positive change for a patient. Social media played a seminal role in movement’s success. Post-event analysis revealed social media as the largest single cause of bringing employees to action. 33% of Change Day participants reported receiving their information of the program via SNS, the single largest contributor.²⁴ As this paper reiterates, social media is more than just SNS. By adding in the 25% of people who heard about Change Day from within their organization (peer-to-peer horizontal communication), social media accounted for 58% of all people who contributed to Change Day.

NHS Change Day displayed the power of social media to facilitate change. It also reinforced a key tenet from CoPs and lifelong learning: facilitating change does not require an expert. The primary agents for Change Day were not seasoned medical professionals—they were residents. They passed information, via Twitter initially, which resonated through not only the medical practitioners themselves, but also to the

²³ Helen Bevan et al., “Biggest Ever Day of Collective Action to Improve Healthcare That Started with a Tweet,” accessed February 26, 2015, <http://www.mixprize.org/story/biggest-ever-day-collective-action-improve-healthcare-started-tweet-0>.

²⁴ Bevan et al., “Biggest Ever Day of Collective Action to Improve Healthcare.”

NHS in total—administrators, nurses, and support personnel alike. Social media connected people within and between CoPs to achieve an unprecedented day of action for British healthcare.

An appreciation of SNS assisted the originators of Change Day. Studies have shown that positive attitudes toward social media technology increase the frequency of its use.²⁵ Perceiving social media as easy to use, in addition to being useful within a CoP, reinforces the medium. The nursing community provides examples where positive reinforcement of social media has furthered its impact. A group of British Columbia nurses created a professional network called Innovative Nursing Services and Practice Informed by Research and Evaluation Network, mercifully shortened to simply InspireNET.²⁶ Designed to connect a geographically separated CoP, InspireNET sought to increase nurses' knowledge and inform them of new practical applications. Managed by a team of nurses, academics, and information technology professionals, the website features both public and private areas. It is open and free for anyone to view and join. In the first six months, the site's membership grew from 134 to over 1,400. Individuals' rationale for joining the site coincided with Dr. Cunningham's uses of social media; nurses stated the primary reasons they joined InspireNET was to network (connect), to collaborate (share), and to learn.²⁷ The interactions brought about by InspireNET created tangible benefits. Individuals that met through the website went on to develop research proposals on how to improve professional practice and nursing management.

Social media is a dynamic tool; it can blossom into benefits never intended by its users. Teresa Chin, an agency nurse who felt

²⁵ McGowan et al., "Understanding the Factors That Influence the Adoption and Meaningful Use of Social Media by Physicians to Share Medical Information."

²⁶ Noreen C. Frisch et al., "Use of Social Media and Web 2.0 Technologies to Increase Knowledge and Skills of British Columbia Nurses," NI 2012: *Proceedings of the 11th International Congress on Nursing Informatics 2012* (June 23, 2012), accessed February 8, 2015, <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3799184/>.

²⁷ Frisch et al., "Use of Social Media and Web 2.0 Technologies."

professionally isolated, turned to Twitter and her CoP for support. Seeking to connect and share with other nurses, she began a weekly on-line discussion using #WeNurses—the response was astounding. The username @WeNurses now has over 14,000 followers. Chin, quite apparently, was not the only nurse who felt isolated or desired professional interaction. The Twitter handle has received such a following that the US Department of Health has harnessed Chin's platform as a medium to consult with and garner feedback from nurses.²⁸ The account has an unstructured agenda. New nurses use the platform to engage with and learn from experienced nurses. Old colleagues use the forum to reconnect and share. Chin's #WeNurses lets the community decide and use the forum as it sees fit. CoP principles are at the center of @WeNurses. As Chin herself explained, "...That's the beauty of it. Nurses have a passion and can share that online to bring about change and improvement in patient care."²⁹

The medical field, through these brief vignettes, has provided a bountiful amount of data and examples on its use of social media. Large portions of the medical field, to include doctors, nurses, and hospital administrators, along with their associated CoPs, are adopting social media as an avenue for process improvement and professional development. The medical field is not the only profession to provide analysis for the DOD on social media usage. Academia, by its nature, drives toward a pursuit of knowledge. It is embracing social media to educate and develop not only its students, but also its faculty.

Social media provides opportunities for self-development in the fast-paced modern society. Professionals, regardless of field, often want to attend seminars and conferences as a means of self-development. The pace of their professional life often restricts their ability to do so.

²⁸ Chris Balcombe, "The Power of Social Media," *Nursing Standard* 28, no. 36 (May 7, 2014): 63.

²⁹ Balcombe, "The Power of Social Media," 63.

Academics are no exception to this situation. A 2012 survey of university medical schools revealed a lack of time as university educators' most significant barrier to participating in faculty development activities.³⁰ To alleviate this issue, universities have employed social media as a pathway to more time-efficient opportunities for professional self-development. Simply creating social media solutions, however, does not guarantee success in providing avenues for faculty development. Some universities assimilated social media into their faculty programs more effectively than their peers. The 2012 study highlighted universities for their best practices on social media integration. These innovative ways of using social media expanded possibilities for faculty members to collaborate with each other, present, and receive new ideas. A summary of two examples from the study follow:³¹

- (1) The University of Michigan created a faculty development wiki (collaborative editing website) to encourage participation among its educators. As the jump to new technologies can be daunting, the university placed YouTube videos throughout the forum, which instructed visitors on how to participate, alleviating concerns of usability. Finally, the university's website designers developed a mobile "app" to optimize content delivery to mobile devices, making accessibility much easier to the time-constrained professor.
- (2) The University of California at San Francisco integrated faculty workshops with the University's Medical Education Twitter feed and its Medical Education blog. Integrating these three social media sources allows discussion and topics to occur before, during, and after the workshops as well as allowing those unable to attend in person a chance to collaborate and interact with the ideas of those present.

³⁰ Peter S. Cahn, Emelia J. Benjamin, and Christopher W. Shanahan, "Uncrunching' Time: Medical Schools' Use of Social Media for Faculty Development," *Medical Education Online* 18 (June 27, 2013): 1.

³¹ Cahn, Benjamin, and Shanahan, "Uncrunching' Time," 3.

These two examples demonstrated the effectiveness of not only social media, but also the modern hybrid solution of social and broadcast media. To encourage faculty participation, the universities broadcast the information on the new SNS to its faculty; that information travelled vertically from a single point information source. Yet once the faculty members understood the functionality of the universities' new SNS, the horizontal information passing of social media began among the faculty. These combined actions allowed more of the universities' faculty members the opportunity to engage in professional development. The key to this model relies on the faculty being active users of social media. If the target audience is unwilling to participate in social media, any organizational effort to the contrary occurs in vain.

Any fear of academics turning away from social media is, however, unwarranted. Scholars' use of social media is on the rise. Looking at Twitter specifically, the University of Texas conducted a study examining scholars' participation on the micro-blogging site.³² The study's results revealed a significant overlap between scholars' use of Twitter and Cunningham's 10 reasons medical professionals should use social media. Study author George Veletsianos listed seven themes for how scholars use Twitter: (1) Information, resource, and media sharing (2) Expanding learning opportunities beyond the confines of the classroom (3) Requesting assistance and offering suggestions (4) Living social public lives (5) Digital identity and impression management (6) Connecting and networking and (7) Presence across multiple online social networks.³³ Some of the themes (4 and 5) have little to do with self-development; the remainder however, directly contributes to the self-development of the scholar. The following discussion covers the applicable themes in more detail.

³² George Veletsianos, "Higher Education Scholars' Participation and Practices on Twitter," *Journal of Computer Assisted Learning* 28, no. 4 (2012): 337.

³³ Veletsianos, "Higher Education Scholars' Participation and Practices on Twitter," 342.

The first theme of Veletsianos's study, "information, resource, and media sharing," was also the most predominant theme among the scholars surveyed. These tweets aim to bring attention to, or reaffirm, a wide array of educational topics the scholar's followers might otherwise not have known. In these tweets, the scholar is relaying a particular item he finds interesting. The items can range from articles he read, conferences he attended, or new tools and applications he discovered. Since tweeting demands brevity, the message content is often little more than a hyperlink, but through this method, information still moves into the CoP. The second theme of Twitter use in the study closely mirrors the first. The theme still revolves around sharing information and resources, but the content narrows to the scholar's students and his classroom. These tweets praise a student's research and written work, or are a method for the scholar to distribute classroom materials to his students. These first two themes centered on a scholar using Twitter to push information to his followers and CoP; he also uses Twitter to pull information to himself.

A third theme offered by Veletsianos's study is the request of scholars to have information sent to them. In this instance, scholars used social media to pull information from their CoP. Recognizing the breadth and depth of information the CoP holds, scholars tapped into its vast resources. Pulling and requesting information are foundational elements of a CoP. For scholars and educators, this theme's tweets allowed them the ability to present broad research topics to their followers and peers, in addition to asking for inputs, both generally on topic choice or specifically on a research question. To pull information from Twitter, however, a scholar needs followers to ask.

Connecting and networking were the subject of the tweets forming the sixth broad theme. Scholars' professional connections occur in various ways, conference attendance, editing articles or books, or sitting on the same educational panel. The advent of SNS created another

method to create networks and professional connections. Networking occurred within CoPs as scholars introduced and promoted one another through Twitter, but it also occurred between CoPs. In the survey, scholars from differing fields would mention colleagues from other disciplines in their tweets, recommending them as a “good follow” for people interested in their subject of expertise.

The final theme of Twitter use by scholars involved their presence across multiple SNS. As alluded to previously, each tweet has a finite limit of 140-characters. For the common Internet user it offers spacious room to relay a thought or opinion. To the scholar however, 140-characters represent a paltry amount space for the knowledge they wish to convey. Hyperbole aside, as previously stated, many scholars use tweets to push links of articles, video lectures, or other published material. The sources in the link are not always other people. Scholars utilized Twitter to push their own works on other SNS, links in these tweets often included YouTube videos of a lecture they conducted or a personal blog site referencing an article they wrote.

Each of the themes discussed in detail from Veletsianos’s study of scholars’ Twitter usage revealed the power of social media, specifically micro-blogging, in disseminating information within CoPs. Scholars, as professionals, are sharing, connecting, and collaborating on Twitter. It demonstrated how scholars used Twitter to spread information among CoPs, as well as a tool for enhancing their teaching methods and accommodating a better learning experience for their students.³⁴ What might seem to be irreverent and witty 140-character messages, in fact, provide avenues for learning. The “social” in social networking site, indicates interaction among individuals. As Wegner argued, the learning process naturally occurs through this social interaction, whether it happens face-to-face or on-line does not matter. Through Twitter’s social

³⁴ Veletsianos, “Higher Education Scholars’ Participation and Practices on Twitter,” 343.

interactions, scholars are creating and providing learning to each other and their followers.

As shown, Twitter is an excellent tool for passing information among CoPs. Due to the constraints on message length, it does little to improve the quality of its user's writing ability and presentation of analytical thought. In many cases, tweets are an anathema to the concept of scholarly writing (if u no wut i am trying 2 say). Micro-blogging is unequipped in the endeavor of enhancing one's scholarly writing ability. Using micro-blogging to improve writing style and analytical presentation is a case of applying social media in an incorrect context. Yet not all social media methods are unequipped for the task. Blogging, which is another social media form, provides a format nearly tailor made for such purposes. The number of academics who are turning to blogging is increasing; their reasons for doing so all gravitate around self-development.

Blogging still provides scholars with the previously discussed social media benefits, such as sharing information and connecting professionally. Blogging researcher Dr. Sara Kjellberg conducted a series of interviews in 2010 with Ph.D. instructors and lecturers who contributed regularly to blog sites. Her research focused on understanding why accomplished academics, given the amount of formalized writing and presentations they conduct as part of their profession, would choose to blog. Her research revealed six functions, distributed across three overarching motivations.³⁵ Many of the functions Kjellberg identified, such as sharing, feeling connected, interacting, and disseminating content, this paper has discussed. Of particular interest however, is the concept of creativity as a motivation and writing as a function as to why academic researchers blog.

³⁵ Sara Kjellberg, "I Am a Blogging Researcher: Motivations for Blogging in a Scholarly Context," *First Monday* 15, no. 8 (July 14, 2010), <http://firstmonday.org/ojs/index.php/fm/article/view/2962>.

Table 3: Function and Motive for Scholarly Blogging

Function	Audience	Motivation
Disseminating Content	Others	Sharing
Expressing Opinion		
<i>Writing</i>	Self	<i>Room for Creativity</i>
Keeping up-to-date		
Interacting	Self and Others	Feeling Connected
Creating Relationships		

Source: Adapted from Sara Kjellberg, "I am a Blogging Researcher: Motivations for Blogging in a Scholarly Context," July 2010. [Italics added]

Normally directed to a specific writing style and format by their professional publications, blogging offers professionals a chance to practice writing in a non-formal, yet persuasive manner. Several of the interviewed scholars referred to blogging as a way for them to improve their writing skills. One of her subjects indicated that blogging, "is like all writing, you develop yourself by writing," further stating blogs were a "writing support tool.³⁶ Any writing, whether scholarly or informal, boosts the overall writing abilities of a professional. Blogging not only served as means for academics to develop their writing acumen, but also as a method for inspiring creativity. Participants in Kjellberg's research cited blog writing as a catalyst for future scholarly research. By fleshing out their ideas informally on a blog, they narrowed the focus of their ideas into a future article or research project. Paraphrasing SAASS professor (and fellow long-suffering Minnesota Vikings fan) Dr. Thomas Hughes, as he once instructed the author in a feedback sessions, sometimes you have to think before you write...other times, you need to write in order to think. Blogging is a method the scholars from

³⁶ Kjellberg, "Motivations for Blogging in a Scholarly Context."

Kjellberg's study used "to write in order to think." Scholars use blogging as a self-development tool. Alongside the other social media benefits, blogging inspires creativity of mind, as well as improves writing and presentations abilities.

Blogging also assists scholars in their teaching methodologies, creating a new mechanism to draw out the latent intellectual capital of their students. Duke University professor Cathy Davidson, teaching a class on learning and the Internet, gave her students two assignments. The first assignment was a traditional term paper; the second was for each student to write a blog post. The results of the two assignments astonished her. The term papers were littered with poor grammar, jargon, and rambling sentences. The blog posts her students turned in were "incomparably better."³⁷ Her take-away from the incident was what research has already indicated: people take their writing more seriously if it is peer evaluated, rather than teacher evaluated. When it came to scholarly writing, the Internet and social media made students more literate and insightful, not less. While anecdotal, consider the amount of time a member of the younger generation reviews a Facebook post before submitting compared to completing homework. Subjecting work to peer review can generate better products.

Dr. Davidson's methods have caught the attention (or wrath) of traditional minded academics. Her idea of grading through student crowdsourcing is revolutionary. Considering the paradigm shift such an idea would engender in academia, many scholars vehemently oppose her opinion as heretical. Doubters aside, she continues on, pressing her theory of the Internet and social media as revolutionizing academia to its core. As she herself aptly describes, the academic naysayers believed the learning process had to be like "cod-liver oil," terrible tasting but good for

³⁷ Cathy N. Davidson, "Collaborative Learning for the Digital Age," August 26, 2011, accessed April 2, 2015, <http://chronicle.com/article/Collaborative-Learning-for-the/128789/>.

you.³⁸ Instead, by using social media, Dr. Davidson highlighted avenues where community learning supplements formal education. Getting all of the academic community to appreciate social media's applicability may take longer than she anticipates.

The “NHS Change Day,” @WeNurses, and Dr. Davidson’s blog-infused instruction method reveals social media’s capabilities and benefits in the medical and academic communities. These examples provide a testament to the role social media plays in the adult learning process. Through the sharing of experiences, information, and methods of analysis, social media creates venues for lifelong learning. Communities of practice are integral to lifelong learning and the interaction by groups of like-minded individuals creates a greater interaction generated by CoPs. As Etienne Wegner argued, as individuals congregate within CoPs, their social interaction facilitates the learning process. These benefits have been harnessed by organizations for the improvement of their professionals and the profession as a whole. The medical field and academia are beginning to embrace social media. The DOD is following along this path, using social media to create efficiencies for all its members, but social media can do more, specifically in the development of the military strategist.

³⁸ Davidson, “Collaborative Learning for the Digital Age.”

Chapter 4

Social Media and the Military Strategist

As iron sharpens iron, so one person sharpens another.

Proverbs 27:17, NIV

Social media can provide a benefit to individuals and organizations if used appropriately. It is not a panacea, but when applied in the proper context, it can unleash potential that might otherwise go untapped. The previous chapter's examples of how social media benefited the medical and academic professions augurs similar gains for military professionals—specifically the military strategist. This final chapter briefly chronicles the US military's use of the World Wide Web (WWW), from its creation through Web 2.0. This analysis will demonstrate how the military has previously sought out ways to benefit from WWW innovations, to include social media. The second section narrows the focus from the Department of Defense (DOD) writ large and focuses on why social media benefits military strategists. The brief third portion of the chapter acknowledges an alternative point of view—one that argues social media is at best a luxury whose relevance is overblown.

Department of Defense Social Media Use

The DOD relies upon technology as a foundation for maintaining its superiority vis-a-vis the rest of the world. The B-2 bomber, F-22 fighter, nuclear powered aircraft carriers and submarines, as well as the preponderance of US space capability attest to this statement. Yet, for all the overwhelming dependence on technology, the DOD's amateurish use of everyday information and communication technology (ICT) has become a cliché. Despite the ubiquity of wireless networks, Internet access, and efficient applications, military ICT generally lags behind the

commercial sector. Security is a main driver of the disparity. The DOD can ill afford to fail in the cyberspace domain, given how such failings often drive a flurry of news activity—even when the issue is neither the DOD’s fault, nor particularly egregious.¹ For all the complaints within the DOD regarding slow networks and unresponsive ICT support, the organization has consistently adjusted to new ICT developments throughout the modern era. It might not be the first to make adjustments, but it does encourage and assist its members in mastering the new technologies. As detailed in the second chapter, there have been two large breakthroughs regarding the Internet (besides the development of the Internet itself)—the creation of the WWW and the emergence of Web 2.0. The DOD quickly recognized, and worked to harness the benefits of, both breakthroughs.

The creation of the WWW opened up a frontier for the military and its strategists. Even during the web’s infancy, the DOD had the clairvoyance to foresee the benefits it might provide to strategy development. The Army After Next (AAN) Project wrote a pamphlet in 1996 regarding the strategist and web resources. Originating in the early 1990s, the AAN was an Army initiative to take a broad look at warfighting beyond the year 2025.² Recognizing the maxim of “information being the lifeblood of strategic analysis,” the AAN pamphlet encouraged military strategists to utilize the plethora of information available via the web.³ Considered banal today by even the most web-illiterate user, the pamphlet described the concept of search engines, in addition to identifying valuable military, government, and commercial

¹ “CENTCOM Twitter Account Hacked, Suspended,” *CNN*, accessed March 23, 2015, <http://www.cnn.com/2015/01/12/politics/centcom-twitter-hacked-suspended/index.html>.

² The Army had another project, Force XXI, which also began in the early 1990s. Force XXI focused on the Army’s needs through the year 2010. The Army After Next was the follow-on to Force XXI.

³ James Kievit and Steven Metz, “The Strategist and the Web Resivated: An Updated Guide to Internet Resources” (Army After Next Project, Carlisle Barracks, PA, October 17, 1996): 1-2.

websites. At the time however, such information was vital to understanding how to take advantage of the WWW. Pop culture provides a reference to how new the Internet and WWW were in the mid-1990s. An advertisement, which ran during the 2015 Super Bowl, shows a *Today Show* clip from 1994 where anchors Katie Couric and Bryant Gumbel are confused by the “@” symbol in an e-mail address, literally asking off-camera, “can you explain what Internet is [sic]?”⁴ Against this backdrop of not understanding the new technologies the WWW provided, the DOD needed to explain the new medium to its members.

Another pamphlet written in the same era by defense analyst and author William Arkin, speaks to the importance of learning how to search intelligently on the web. It goes beyond the AAN’s work, which laid out definitions and instructions, instead centering on his advice on how to be successful when using the web. He downplays the importance of finding the perfect search engine, instead focusing his reader to learn how to navigate effectively through the new WWW medium.⁵ To Arkin, the most effective sites were not necessarily the most popular, but rather, were the ones the strategist was most comfortable using.

Both the AAN and Arkin pamphlets recognized the web as a groundbreaking new tool, but stopped short of touting it as a universal remedy. Each author described the WWW in a manner similar to how this paper describes social media—as a powerful tool if used in the correct context for the correct purpose. Neither the WWW nor social media can accomplish anything on their own; they require competent users, who are able to harness the capabilities of the tools into a viable product. For the DOD, those users are military strategists. While making some valid observations at the outset, the AAN Project undersold

⁴ Brent Snavely, “Katie Couric, Bryant Gumbel Nail BMW’s Super Bowl Ad,” *USA TODAY*, accessed April 16, 2015, <http://www.usatoday.com/story/money/cars/2015/01/27/katie-couric-bryant-gumbel-bmw-super-bowl/22419323/>

⁵ William M. Arkin, *The Internet and Strategic Studies* (Washington DC: Center for Strategic Education, 1998), 2.

the potential of the WWW. It concluded that mastering the WWW was not a requirement for the strategist; it stated she could conduct her work effectively without the WWW. Using a rather unique analogy, the AAN conclusion compared the web to a microwave, and a strategist to a chef. Its rationale was that the microwave provided a shortcut for the cook in a time-constrained environment, but under normal conditions, the chef does not use the microwave, relying on the tradition stovetop instead.⁶ At the time of its writing, the analogy may have held water, however, the AAN failed to look into the future to see how ubiquitous the web would become. In the present day, while a chef still might eschew a microwave's efficiency for the stovetop, the strategist will not bypass the efficiency of the web merely because he has a library full of information.

Today, only the most ardent traditional scholars would claim that the web is an unnecessary tool. Even those with rich and full libraries see the benefits of the WWW for research and analytic purposes. The military strategist is the same. She has recognized the benefits of the WWW to her profession. Yet as technology continues its march into the future, she must adapt and embrace other technologies as they develop. The emergence of Web 2.0 was as significant a breakthrough as was the WWW almost two decades ago. Similar to its predecessor, the DOD is accepting the benefits of Web 2.0, just as it embraced the WWW in its infancy.

As described in Chapter 2, Web 2.0 changed information flow on the web from exclusive, controlled, and product-driven, to inclusive, transparent, and user-driven.⁷ Web 1.0 was revolutionary in the amount of data it made available to individuals. Web 2.0 was revolutionary in the amount of data it allowed individuals to place on the web. Web 2.0

⁶ Kievit and Metz, "The Strategist and the Web Resivated: An Updated Guide to Internet Resources," 21.

⁷ Mark Drapeau and Linton Wells II, "Social Software and National Security: An Initial Net Assessment" (National Defense University Defense & Technology Paper, Fort McNair, Washington DC, April 2009): 3.

changed the flow of ideas and communication on the web from one a predominantly one-way direction to a bilateral exchange. The DOD, following commercial best practice, saw similar capabilities the new ICT could provide. Web 2.0's dynamic nature complemented ways to address the new threats the United States faced at the turn of the 21st Century. Former Deputy Secretary of Defense for Acquisition and Technology Paul Kaminski, in a speech at the US Air Force Academy, aptly described the ambiguity of the new threat. While the Cold War threat from the former Soviet Union and Warsaw Pact receded in the 1990s, the cumulative threat the United States faced in the new century rose even higher.⁸ The need to collaborate, coordinate, and share information, which was crucial to past mission success, only increased with the threats of the new century. As the armed forces embraced Web 2.0, they started seeing the benefits through process transformation. Table 4 lists a few of the areas Web 2.0 made a difference.⁹

These examples highlight process efficiencies. Tasks such as consolidating weekly reports and coordination comments on proposed policy changes were not new to the DOD, these tasks occurred before Web 2.0's development. Nevertheless, Web 2.0 generated efficiencies in accomplishing these tasks through reducing the manpower and time required for their completion. However, Web 2.0 provides more than simply streamlining administrative functions. As the Global Hawk example above highlights, the armed forces are using Web 2.0 tools for operational missions. One such tool is social networking sites (SNS), arguably the most significant offshoot of Web 2.0 technology. Before listing the impact of well-known commercial sites such as Facebook, Twitter, and YouTube, it is important to recognize the surge of “home

⁸ Paul Dr. Kaminski, “Sustaining Flight through the Power of Knowledge” (Ira C. Eaker Distinguished Lecture on National Defense Policy, (United States Air Force Academy, May 2, 1996).

⁹ US Department of Defense, *The Use of Web 2.0 in the Department of Defense* (Washington, DC: DoD CIO and Joint Staff J6, July 2009): 8–9.

grown” SNS within the military.

Table 4: Web 2.0 Process Improvements within the DOD

Process	Organization	Example
Status Reporting	US Marine Corps Forces, Central Command	Leveraging wikis and blogs to consolidate weekly reports and disseminate information, reduces time and manpower
Intelligence Aggregation	State Department	Uses wikis to aggregate and maintain talking points as all foreign service officers must speak from a common script.
Command and Control	US Air Force	During Operation Iraqi Freedom, the Air Force developed a full reach-back capability for the Global Hawk. Crews used Internet Relay Chat to connect with each other, forming a worldwide virtual crew.
Policy and Strategy Guidance Development	Department of the Navy Chief Information Office	Posting existing policies for community review to determine how/when to update and improve, including identifying policy gaps.

Source: Adapted from US Department of Defense, “The Use of Web 2.0 in the Department of Defense,” July 2009.

Intelink offers one such example. Developed and maintained by Intelligence Community Enterprise Solutions, Intelink brings Web 2.0 collaboration capabilities across Federal Agencies to include the DOD, State Department, and Department of Homeland Security.¹⁰ To accommodate all areas of security, Intelink versions exist at the unclassified, secret, and top-secret levels. The site offers blogs, microblogging, intelligence document storage, maps, and Intellipedia, the intelligence community’s wiki of choice.¹¹ Intellipedia operates the same as any other wiki, it fosters collaboration through community editing of its

¹⁰ Department of Defense, *The Use of Web 2.0*, 8–9.

¹¹ “Intelink Logout Page,” accessed March 25, 2015, <https://passport.intelink.gov/my.logout.php3>.

pages and information. As new information on an intelligence subject arises, the Intelink community updates the wiki, contributing greater fidelity on the subject for future users. Military members jumped at the chance to use this social media. From June 2007 to April 2009, the combined number of articles on Intellipedia tripled, jumping from 250,000 to just under 1 million.¹² Separate visits to the site totaled over 4 million in May 2009, underscoring its importance and acceptance by the intelligence community.

Whereas Intelink is a social media tool that focuses on the intelligence community, Defense Knowledge Online (DKO) provides a collaborative suite for a wider military audience. Deployed originally as part of Army Knowledge Online (AKO) portal, DKO expanded its user-base from predominantly Army personnel to the entire DOD and other federal agencies. It provides a collaboration and communication toolset comparable to Intelink. Instant messaging, SharePoint, and webmail, are all included in DKO, which also acts as a central hub for military websites such as MyPay.¹³ Incorporating an already large Army user population of 2 million, DKO's users rose as other services began migrating to the site. From July 2008 to August 2009, the number of unclassified DKO accounts increased 48% and the DKO classified accounts increased 69%.¹⁴ These numbers manifest the armed forces willingness to embrace new technologies. Both Intelink and DKO demonstrate the armed forces integration of SNS into their administrative and daily operations. However, even with user amounts increasing, the number of people using the government sites pale in comparison to those using commercial SNS.

Unlike the restricted “need to know” nature of government sites,

¹² US Department of Defense, *The Use of Web 2.0*, 8. Number of articles included those at the unclassified, secret, and top-secret classification levels.

¹³ “AKO/DKO Help Page,” AKO Webmail, accessed March 26, 2015, <http://www.ako-webmail.com/faq/help-page/>.

¹⁴ US Department of Defense, *The Use of Web 2.0*, 5–6.

the user base on commercial SNS is open to anyone. Due to the openness and ease of use on commercial SNS, entities are using them in their operations, and not simply military operations. A significant amount of recent research has taken place regarding the effects of SNS on military and diplomatic efforts. This paper cannot do justice to the depth of this research, but it is advantageous to provide two brief examples. Each vignette exhibits social media's real-time applicability to current operations. Neither involves the United States, which shows the permeation of SNS throughout the world.

The first example illustrates tactical SNS usage by the Pakistani terror group Lashkar-e-Taiba (LET) during its attack against the Indian city of Mumbai. Taking place on 28 November 2008, ten LET members assaulted a number of Mumbai hotels and restaurants.¹⁵ The attack was part of the group's goal of freeing Indian held Kashmir and bringing Islam to India and Southeast Asia. LET had been active for years before this attack, yet this attack was unique. The group used media, especially social media, to maintain situational awareness during the action, two methods in particular. Taking advantage of the ubiquity of social media and people's desire to post the latest information, the terrorists monitored live feeds of the event via YouTube and Facebook. SNS users, by providing details of actions to counter the LET attack, unwittingly helped them anticipate the approach routes of the responding police forces and prepare accordingly. Additionally, the group's handlers, at a separate location, used social media to conduct command and control of their operatives during the attack. They accomplished these actions using handheld devices such as Blackberries and cell phones with multiple SIM cards, making it difficult to trace and

¹⁵ Simon O'Rourke, "The Emergent Challenges for Policing Terrorism: Lessons from Mumbai," *1st Australian Counter Terrorism Conference* (Security Research Institute Conference, Perth, Australia: Edith Cowan University, 2010): 45.

disrupt their communications.¹⁶ In the Mumbai attack, LET operationalized social media to previously unseen levels.

The second example also involves a terror organization. Hezbollah, a Shiite Muslim group and powerful entity in Lebanon, adeptly wielded SNS during its 2006 war with Israel to garner support for itself while denying it to its adversary. Beginning in July 2006, the war's catalyst appeared in the form of a Hezbollah cross-border strike against an Israeli patrol.¹⁷ The raid killed several Israeli soldiers and ended with Hezbollah capturing the remaining survivors (though they eventually died in captivity). In response, Israel launched a major (predominantly air) campaign against Hezbollah positions inside Lebanon, many of which lay in dense urban areas. Hezbollah used the location of Israel's targets to their advantage. Israel's goal was to eliminate, or severely reduce, Hezbollah's military capabilities; it struck Hezbollah targets deep inside Lebanese cities. The Shiite group responded with rocket attacks into Northern Israel. As these battles raged, the power of the media, both social and mass, took the spotlight.

International support would play an important role in determining the war's victor. Each side knew this fact, and engaged in an information battle alongside the airstrikes and rocket barrages. The Israeli Defense Force and Hezbollah actively used SNS, by posting videos and still shots of the fighting, to display the destruction onto blog sites and YouTube.¹⁸ The intent behind these actions was to illuminate the adversary's violations of the rules of war while highlighting its own forces' success. The targeted audience was the international community—Hezbollah emerged as the more capable information combatant. Using its own satellite television station, Al Manar, it broadcast and

¹⁶ O'Rourke, "The Emergent Challenges for Policing Terrorism," 45.

¹⁷ David Rodman, *Sword and Shield of Zion: The Israel Air Force in the Arab-Israeli Conflict, 1948-2012* (Brighton, UK: Sussex Academic Press, 2013), 44.

¹⁸ William B. Caldwell, Dennis M. Murphy, and Anton Menning, "Learning to Leverage New Media: The Israeli Defense Forces in Recent Conflicts," *Military Review*, (June 2009): 5.

transformed tactical successes into strategic results. Though the station already reached 200 million people in the region, YouTube posters sympathetic to Hezbollah, helped it reach a significantly larger group. Through this method, Al Manar segments, including one depicting the attack against the Israeli destroyer *Hanit*, reached many individuals who otherwise would not have had access.¹⁹ In no small part, social media helped Hezbollah claim victory by creating a “perception of failure” by the Israelis.²⁰ Not only did Hezbollah illuminate Israel’s inability to stop the organization, but it also conveyed Israel as conducting disproportionate attacks, unnecessarily harming civilians and non-combatants. Despite taking significantly more losses than Israel, Hezbollah adeptly used social media to pressure the international community to cease hostilities on favorable terms. Israel’s information and social media response failed to answer the bell.

The LET and Hezbollah examples show how social media’s reach extended into the national instruments of power. All four aspects of the DIME shape, and to some extent are shaped by, social media. The military strategist must realize and appreciate the new environment in which strategy occurs—an environment influenced by social media. As SNS permeate into society, to include the armed forces, the military is inculcating an awareness of proper social media use into its ranks. The US Air Force regularly publishes a social media guide as a quick reference for members, commanders, and family on appropriate use of social media.²¹ Such guides, while applicable to the military strategist, do not focus on specific benefits the military strategist can pull from social media. What then, does social media provide the strategist to help her develop professionally?

¹⁹ Caldwell, Murphy, Menning, “Learning to Leverage New Media,” 5.

²⁰ Thomas D. Mayfield III, “A Commander’s Strategy for Social Media,” *Joint Forces Quarterly*, no. 60 (Quarter 2011): 80.

²¹ Air Force Public Affairs Agency, “Air Force Social Media Guide” (US Air Force, June 1, 2013).

#Military Strategists

Military strategists must develop an integrated educational approach to enhance their knowledge base if they are to stay relevant and keep pace with the changing world.²² The previous chapter examined how scholars and medical professionals connected, reflected, and led, through social media, yet these three uses are merely a sample of its benefits. These professionals also used social media for their own self-development. Social media provided avenues to share experiences and learn new practices via their respective communities of practice (CoPs). What social media did for the medical field and academia, it can also do for the military strategist.

The strategist needs to maintain contact with CoPs beyond his own. Doing so exposes him to a greater range of knowledge, analytical processes, and practical experiences. Social media can assist the military strategist with making connections to these applicable CoPs. Yet simply gaining knowledge is insufficient to produce a better product. Using social media for input only rarely matters. Any new information or analytical process must travel from the brain of the military strategist to the policymakers. A good idea never presented, or presented poorly, does little good. Social media gives the military strategist an avenue to refine his thoughts in a “practice” environment, increasing his presentation abilities where it truly matters—on the job. To summarize, social media can provide the military strategist new methods of importing knowledge and exporting improved products and analysis. It can increase the depth and breadth of knowledge and improve the quality of product and presentation. This section expands on the detail of both capabilities.

Military strategists maintain their own community of practice (CoP). The military strategy CoP contains all of Wegner’s three elements

²² Kaminski, “Sustaining Flight through the Power of Knowledge.”

from the previous chapter. The domain of this community forms around military strategy's support to grand strategy. The precise nature of military strategic support may vary, but all aspects of the domain ultimately support the national grand strategy. The community of the military strategist resides in multiple organizations throughout the armed services. In planning cells, strategic study groups, and commander's action groups, strategists interact with one another. Finally, the action taken within military strategist CoP involves the balancing of ends, ways, and means. Whether the strategist is working operational campaign planning or constructing an acquisition strategy for new equipment, balancing ends, ways, and means always occurs. Domain, community, and practice are all present within the military strategist's CoP.

A strategist relies on his CoP to augment experiences, education, and lifelong learning. However, military strategists live in a world of incomplete information; he does not know adversarial intentions and in most cases, he does not know where his own knowledge may be deficient.²³ As Chapter 1 highlighted, military strategists require expertise in a number of the social sciences to increase effectiveness. The list of the social sciences relating to military strategy is exhaustive: military history, military theory, sociology, psychology, international relations, economics, religion, and anthropology, name only the more obvious answers (Eric Murphy, March 18, 2015, e-mail message to author). Even this list is incomplete, but it illustrates a point: no organization, let alone a single individual, is capable of having the required depth of knowledge needed to create an expert military strategy. James Surowiecki validates this argument in his book, *The Wisdom of Crowds*. He stated that with disciplines as broad as strategy, there was

²³ Williamson Murray, MacGregor Knox, and Alvin H. Bernstein, eds., *The Making of Strategy: Rulers, States, and War* (New York, NY: Cambridge University Press, 1994), 22.

no evidence to suggest that attaining true expertise is even possible.²⁴ Following this logic, whereas one individual cannot attain the required breadth of knowledge to create an expert strategy, he can still increase his depth of knowledge within a single area. A simple way to amass new knowledge in a specific area of interest is through accessing a CoP within that discipline.

Social media makes access to CoPs simple, easy, and effective. By expanding outward into the tangentially strategic CoPs previously listed, the strategist can increase his knowledge in differing fields of study. In turn, this is beneficial for the military strategist's own CoP. Through acquiring new information or methods, and interacting with his own CoP, he increases the group's collective knowledge. As an illustration, consider a military strategist seeking to expand his knowledge in cultural anthropology, a valid subject for understanding diverse areas and cultures around the globe. How is he able to gain access to the community of practice? There are numerous textbooks and professional journals written about anthropology that he can subscribe to or purchase. Time, however, is a limiting factor, but social media provides a remedy. A Google search of "anthropology blog," returned a site (the first listed) listing a conglomeration of the top anthropology blogs. Clicking the site displays 100 anthropology blog sites, separated into several categories to include general, regional, and communication.²⁵ A similar search on Twitter listed numerous university anthropology accounts as well as individual anthropology experts. From these lists, the strategist begins to immerse himself in the anthropologist CoP and the path of knowledge expansion. Once connected to an anthropology CoP, the strategist receives information, but also has the opportunity to ask specific questions, pulling information to himself.

²⁴ James Surowiecki, *The Wisdom of Crowds* (New York, NY: Anchor Books, 2005), 32.

²⁵ Holly McCarthy, "Top 100 Anthropology Blogs," OnlineUniversities.com, December 3, 2008, accessed March 27, 2015, <http://www.onlineuniversities.com/blog/2008/12/top-100-anthropology-blogs/>.

The social media naysayer will argue that there is no vetting mechanism for information placed on social media. This is true--of the limitations placed on content by SNS terms of use agreements, factual accuracy does not make the list. The fictional (alongside being hilariously naive and inept) character Michael Scott, from the TV show *The Office*, endorsed this argument by stating, "Wikipedia, is the best thing ever. Anyone in the world can write anything they want on any subject, so you know you are getting the best possible information."²⁶ The irony in his quote should be painfully obvious. Since anyone can place anything on SNS, a user does not know he is getting the best information. No matter how much people want to believe what they read on social media, doing so without analyzing the source is amateurish. Nevertheless, failing to analyze source material is not a fault attributed to social media alone—it is no different from written work. The military strategist has the ability, learned through experience and education, to mitigate this risk. Those strategists who cannot tell the difference between scholarly work, opinion, and propaganda will not find themselves strategists for very long.

Returning to the anthropology example, even after sifting the good information from the bad, using social media does not make the strategist an expert in anthropology; far from it. However, having ready access to such links allows the strategist to delve quickly into the subject at the time of his choosing. The strategist does not need to maintain his interest in the field of anthropology. If he has met his intent, or desired level of expertise in a particular area, he is free to move to other subject. As other fields pique his interest, social media provides options for as much, or as little, diversity of interest as he desires. The key is self-development and the acquisition of information. The more knowledge gleaned by the individual strategist, the greater the collective knowledge

²⁶ Jeffrey Blitz, "The Negotiation" *The Office* (NBC, April 5, 2007).

within the CoP. Moreover, as postulated by *The Wisdom of Crowds*, the best solution sets lie within this collective knowledge. A collectively achieved solution will not necessarily be the correct solution, but it will consistently produce a better answer than individual experts.²⁷

Social media provides greater access to whatever CoP the military strategist seeks to join. It increases the breadth and depth of knowledge not only possessed by the military strategist, but also that of the collective as well. Social media also provides a way to put the new knowledge into practice. It can assist to expand solution sets to the ends, ways, and means equation. An interesting biology lesson on animal reproduction provides an intriguing analogy to how social media can make this happen.

The strategies animals use to reproduce follows along one of two methods, termed “r and K.” Each strategy is intricate, but easily summarized. Animals that use the “r” method of reproduction, such as many insects and fish, normally live in harsh environments where lifespans are relatively short. The harsh environment can exist due to climate, predators, or both; survival is unlikely. To ensure species propagation, r-strategy animals only reproduce once in its lifetime, but produce an exorbitant amount of offspring. The strategy accepts that a majority of the offspring will die off before reaching maturity. This fact is irrelevant, as the quantity of offspring ensures enough will survive to continue the genetic line. The r-strategy places its genetic bet on the inability of predators or climate to eliminate all the offspring produced.

The counter is the “K” strategy. In this strategy, animals (and humans) live in stable environments and reproduce multiple times during a lifespan. Unlike the r-strategy though, this strategy only reproduces a few offspring each time, many times it is just a single offspring. Rather than leave the offspring to the dangers of the wild, the

²⁷ Surowiecki, *The Wisdom of Crowds*, 235.

K-strategy parent nurtures the offspring to ensure it reaches reproductive age.²⁸ The military strategist can draw inspiration from both of these biological reproduction models. When combined with an influx of social media, these models have the capability to create better strategic products.

The current method of military strategy creation follows the K-model reproduction path. A small team of strategists, working alongside one another in a plans cell, creates a single strategy. Following the biology analogy, the strategy is the “offspring” of the strategists in the plans cell. They create and nurture the strategy to maturity, presenting it to policymakers for approval. This method is time tested and proven. What would happen if the strategists also harnessed the benefits of r-model reproduction by using social media?

Crowdsourcing elements of the military strategist CoP through social media can better the K-model strategy by presenting multiple r-model strategies for consideration. The planning cell strategists, using either military, commercial, or both types of social media, ask the military strategist CoP questions about the problem they are trying to solve. Asking multiple individuals within the CoP allows various answers from differing perspectives to arise. Additionally, depending on the particulars of the question, inquiring among other non-military CoPs creates an even greater breadth and depth of proposed solutions.²⁹ Due to the lack of detailed knowledge on the subject, the CoP via-a-vis the planning cell strategists have a small likelihood of any individual response being significant—this matters little. Where the planning cell strategists’ answers were analogous to the K-strategy, the CoP answers are similar to the offspring in the r-model. Their strength lies in the quantity and breadth of proposals, not necessarily the quality from

²⁸ “R and K Selection,” accessed November 12, 2014, http://www.bio.miami.edu/tom/courses/bil160/bil160goods/16_rKselection.html.

²⁹ Surowiecki, *The Wisdom of Crowds*, 30.

detailed analysis. Ideally, the questions from the K-model strategists are unclassified, but as the first section of this chapter demonstrated, there are military social media forums available at classified levels as necessary.

Even if the CoP answers only provide one productive bit of information, if the K-model solution incorporates the information, the new hybrid solution is better than the K-model solution alone. The combination of r and K model strategy development likely would provide better solutions than either method on its own, or an individual strategist, regardless of her expertise. Merging the two models to create a single solution increases the diversity of thought and opinion. In a 1996 interview, Steve Jobs commented on the importance of diversity and avoiding what he described as, “linear solutions without a broad perspective of the problem.”³⁰ Web 2.0 tools, social media specifically, present opportunities for outreach and diversity. They draw in greater sources of information for the strategists to solve the complex problems they face daily.³¹

The examples of a military strategist’s social media use up to this point, has been focused on its use to increase a base of knowledge. Such examples refer to an action commonly called lurking. A lurker, according to Internet culture, is an individual who browses an online community, but rarely produces any content of her own. Lurking is only a one-way flow of information, but as shown, it does have its benefits. Lurking provides timelier access to information when compared with methods that are more traditional. However, relying on lurking alone handicaps the benefits social media can provide for the military strategist. Even with the increased knowledge base and access to information, the military strategist still needs to be able to convey her product effectively

³⁰ Gary Wolf, “Steve Jobs: The Next Insanely Great Thing,” *Wired.com*, 1996, accessed March 30, 2015, http://archive.wired.com/wired/archive/4.02/jobs_pr.html.

³¹ Daniel Steiger et al., “Democratizing Strategy: How Crowdsourcing Can Be Used for Strategy Dialogues,” *California Management Review* 54, no. 4 (July 2012): 47.

to policymakers. Strategists have a duty and responsibility to produce content instead of merely consuming it.³² Expressing ideas and opinions is what the military strategist does. The most effective strategists are not necessarily the brightest or the ones with the best ideas; they are the ones who are the most capable of convincing others that their ideas and solutions are superior. In the ideal world, those two qualities reside in the same individual.

Blogs, another form of social media, represent a useful method for the military strategist, specifically in presentation of their products. Blogs offer an excellent opportunity for the military strategist to hone her writing, presentation, and argumentation skills. The colloquial saying, “practice makes perfect” applies to the military strategist as much as anyone. In her professional life, the military strategist produces white papers, talking points, and of course, the unavoidable PowerPoint briefing. Strategists draft these products multiple times before their presentation to an audience of policy or decision makers. Practice, in essence, happens “live” while on the job. If the strategist relies solely on these devices to sharpen her skills, she is failing to optimize the social media resources at hand. To reach maximum potential, a strategist must be prepared to present ideas, take criticism, and defend her opinions as required. Ideally, this occurs before her presentations at work. Blogging provides a ready-made way for the strategist to “practice” writing her ideas and presentation abilities. It promotes interactivity, increases higher-order thinking, and provides opportunities for exposure to differing perspectives on a problem or a solution.³³

J.C Wylie insisted his officers and professors at the Naval War College become proficient at defending their ideas. He would have his

³² “Leaders, Your Facebook Phobia Is Holding You Back,” *The Military Leader: Resources and Insight for Developing Leaders*, March 26, 2015, accessed March 27, 2015, <http://www.themilitaryleader.com/your-facebook-phobia-is-holding-you-back/>.

³³ Richard E. Ferdig and Kaye D. Trammell, “Content Delivery in the Blogosphere,” *Technological Horizons in Education Journal* 31, no. 7 (February 2004): 12-20.

fellow instructors write and present papers in a seminar of their peers.³⁴ To foster improvement, he took to heart the Proverb in the epigraph. Just as iron is needed to sharpen iron, so man is the best tool for sharpening the intellect of other men. An efficient method of engendering creativity and thoroughness in the strategist occurs in the same manner. This happens naturally through her job as a strategist; however, social media provides a supplementary way to increase creativity.

Wylie's practice of bringing together his instructors into a CoP dates back to Prussian General Gerhard von Scharnhorst. Father of the Prussian General Staff, he advocated the exchange of ideas and opinions within a community of strategists. He did so by creating a society concerned with both military and scholarly thought. The primary statute of his organization was, "to instruct its members in the exchange of ideas in all areas of the art of war...that would avoid the difficulties of private study with its tendency to one-sidedness..."³⁵ When the society met, its members would discuss applicable topics. To facilitate the discussion further, Scharnhorst instructed the society's members to write. He did not instruct the society member to write great tomes of wisdom, instead favoring shorter writings, indicated by his quote that, "The preparation of a short essay is often more instructive for the author than the reading of a thick book."³⁶ To Scharnhorst, writing and collaboration led to a greater understanding than the pursuit of military knowledge and strategy gleaned in isolation. Had he lived in the present era, it is not difficult to image that Scharnhorst would endorse the practice of blogging as a means of self-development.

To some however, the idea of putting their opinions and ideas on

³⁴ J. C. Wylie, *Military Strategy: A General Theory of Power Control* (Annapolis: Naval Institute Press, 1989), xxiv.

³⁵ Michael Schoy, "General Gerhard von Scharnhorst: Mentor of Clausewitz and Father of the Prussian-German General Staff" (Toronto, CA), 16, accessed April 1, 2015, http://www.cfc.forces.gc.ca/259/181/82_schoy.pdf.

³⁶ Schoy, "General Gerhard von Scharnhorst."

the Internet is a daunting task. For them, it is one matter to offer ideas, opinions, and solutions at work, as part of a closed professional circle; doing the same for the “world” to see is something completely different. Merely mentioning the word “blog” puts up some peoples’ defense mechanism. A military strategist must do what she can to cull such apprehension as it arises. If not, she risks missing opportunities for the improvement SNS and blogging offer. Recent studies have shown how blogging leads to self-development. Blogs encourage feedback, thicken skins, and stimulate debate, furthering critical analysis by both the reader and the author.³⁷

A study conducted by the University of South Carolina in 2008 illustrated how blogging assisted in developing the skills of foreign language students. The study took initially apprehensive students through an eight-step process to familiarize and alleviate nervousness about blogging. The program began with simply visiting three blog sites and eventually led the students to form their own blog and create a blogging community with their fellow classmates in the target language.³⁸ Not only did the blogging mitigate feelings of apprehension, it also facilitated within the students a greater appreciation of themselves and their classwork while encouraging them to learn from those holding other points of view. Blog writing expanded the creativity of the students. By writing and having their ideas exposed to others, and more importantly, by receiving feedback on their writing, the students learned more than they would have in a classroom environment alone.³⁹ Even though the study focused on students, military strategists can benefit from the same experience and achieve similar results. Blogging exposes the strategist to divergent opinions she would not otherwise have received.⁴⁰

³⁷ Lara Ducate and Lara Lomicka, “Adventures in the Blogosphere: From Blog Readers to Blog Writers,” *Computer Assisted Language Learning* 21, no. 1 (February 2008): 10.

³⁸ Ducate and Lomicka, “Adventures in the Blogosphere,” 14.

³⁹ Ducate and Lomicka, “Adventures in the Blogosphere,” 14., 24.

⁴⁰ Ferdig and Trammell, “Content Delivery in the Blogosphere,” 19.

Strategists will receive plenty of feedback in the professional workplace, but the audience will be relatively limited in diversity of opinion. Blogging opens up the strategist's ideas and opinion, but in addition, it also exposes their writing style and skills, to scrutiny. A blog is different from a white paper or a PowerPoint presentation. However, as already argued in the previous chapter, the practice of writing improves all written work, regardless of medium. The process of formulating text and editing ideas is a tide, which raises the proverbial boats of all written work. As a strategist gains proficiency in writing and developing ideas on a blog, she cannot help but produce better products at the workplace. This is not to say her initial products will be perfect, there is always areas of improvement. Regardless, if her initial quality of product and presentation increases, the eventual output naturally rises as well. The key is to start using social media, and start writing.

The military strategist does not need to concern herself with developing her own blog site. There are many blog sites on the Internet that welcome responses and new writers to their pages. Sites such as The Bridge, WarCouncil, and The Constant Strategist regularly post writings from a vast array of contributors. The Bridge, for example, has no regular contributors. It advertises itself to all who have interest in military affairs, policy, strategy, and national security.⁴¹ The site prides itself on the low barriers to entry compared to some similar sites.⁴² As different issues emerge in the political and national security arena, those with a desire to participate submit a piece for the editors. As one of their editors commented, their primary authorship is people without the formal bona fides to post on other sites, but who still provide valuable

⁴¹ "The Bridge," Medium, accessed March 30, 2015, <https://medium.com/the-bridge>.

⁴² There is an ominous similarity between blogging sites, which restrict access through an invitation only membership, and the British Royal Society during the coffeehouse era. Both claim to further research and academic discussion, but only to individuals, which meet their criteria of qualification on the subject matter. The Royal Society at least had some degree of credentialed validity, blog sites that do the same simply smack of faux-elitism.

insight into the discussion (Richard Ganske, March 28, 2015, e-mail to author). In this manner, The Bridge offers a springboard blog for entry-level strategists interested in bettering their craft. The social media methods for self-development exist; the responsibility to use them rests with the strategist alone.

Whereas the first section of this chapter highlighted areas where social media helps the military member in general, this section demonstrated two foundational uses of social media for self-development. Expanding outward into other CoPs and increasing creativity specifically benefit the military strategist. The two examples of social media improving the strategist and his products merely scratch the surface of the available possibilities. It increases the military strategist's ability to import and export information; that practice is continual. Consider this thesis. It is evaluated on the author's ability (being educated as a future strategist) to research, argue, and express at the Master's-level. At the fundamental core, this thesis is about the author's ability to import data, analyze information, and process knowledge into a product that exports a cogent argument synthesizing all he has learned. There is a time and place for the depth of analysis a thesis or research product requires, professional military education being one such place. However, in the day-to-day life of the strategist working 12-hour days, achieving such depth is difficult, but not impossible. If self-development involves the import and export of information, social media provides a way.

An Alternative Take

Even with this study's numerous examples of how social media can benefit professionals across the spectrum, the medium is not without its detractors. Concerns about social media run the gamut.

From taking too much time,⁴³ to causing stress in relationships,⁴⁴ and the previously mentioned lack of vetting, social media does not lack for critics. These problems are not fictional, some verge on hyperbole, but social media is not without its flaws; its user must understand this reality. As has been reiterated multiple times, social media is not a panacea. It is a tool, and is thereby subject to misuse, over-promises, and under-performances. As with all tools, the user bears the ultimate responsibility to ensure proper use for the task.

There is great concern among professionals on what they are willing to put on social media. The medical profession is concerned about the implications of the very public presence of social media and the ethical and statutory regulations regarding patient confidentiality. The Health Information Portability and Accountability Act (HIPAA) protects the medical privacy of patients. Due to these regulations, the relative risk of using social media does not outweigh the perceived benefits for some would-be users.⁴⁵ Their argument is that a simple misstep is enough to end a career. This statement is only partially valid, as actions taken on social media can end careers, but the level of mistake required is generally greater than the argument implies.⁴⁶

A 2013 CNN article highlights ten individuals who lost their jobs over a post made on social media.⁴⁷ None of the fired employees did anything on social media that would not have deserved their termination “offline” as well. A Taco Bell employee licking a stack of tacos, a teacher

⁴³ Carmen Holotescu and Gabriela Grosseck, “An Empirical Analysis of the Educational Effects of Social Media in Universities and Colleges,” in *eLearning and Software for Education* (8th International Scientific Conference, Bucharest, Romania, 2012): 162.

⁴⁴ “Social Networking ProCon.org,” accessed January 19, 2015, <http://socialnetworking.procon.org/#Background>.

⁴⁵ M DeCamp and A. M. Cunningham, “Social Media: The Way Forward or a Waste of Time for Physicians?,” *The Journal of the Royal College of Physicians of Edinburgh* 43, no. 4 (2012): 320.

⁴⁶ Amy Perry, “Social Media Antics Can Ruin Career, Misrepresent Military Services,” March 6, 2014, accessed April 4, 2015, <http://www.army.mil/article/121428/>.

⁴⁷ Ryan Broderick and Emanuella Grinberg, “10 People Who Learned Social Media Can Get You Fired,” *CNN.com*, June 6, 2013, accessed April 4, 2015, <http://www.cnn.com/2013/06/06/living/buzzfeed-social-media-fired/>.

commenting on her “hot” students while smoking marijuana, fraternity members singing racist songs on a bus, or a politician joking about slavery all did things that normally get people fired or expelled. Social media had nothing to do with the actions of the individuals who lost their jobs. The location of the idiocy does not matter. Each individual caused his or her firing; the presence of social media was merely a correlation.

Many times however, it is possible to recover from simple mistakes made on social media. In 2009, Illinois 10th District Representative Mark Kirk, while serving as a Naval Reservist, tweeted his pride at being back at the Pentagon’s National Military Command Center among his Navy colleagues. Never ones to turn down an opportunity to criticize, amateur politicos in the blogosphere criticized him for tweeting his location and duty station, citing an operations security violation. Kirk, recognizing the error (despite downplaying the true damage it did) apologized and committed himself to refrain from repeating the same error in the future.⁴⁸ He is now serving as the state’s junior senate member, elected to the position in 2010. Recovering from social media missteps is not impossible.

Professionalism is the key to avoiding social media trouble. The content of an improper tweet is no different from the content of an improper comment said in a break room; the audience is simply larger. Additionally, unlike public discourse, social media is permanent. This can serve as both a curse and a blessing. The professional understands this and conducts herself appropriately, whether on social networking or within a workplace. All users of social media must be aware of this, not just the military strategist. If one should always think before speaking, then thinking before posting applies even more so. This should come relatively easy for the professionally minded military strategist. Professionalism however, is not just a key factor in avoiding trouble, but

⁴⁸ Ted Cox, “Kirk Chirps Apologetic Tune over Twitter Tweets,” *Daily Herald*, August 3, 2009, accessed April 2, 2015, <http://prev.dailyherald.com/story/?id=311324>.

also important in accepting the limits of social media.

B.J Mendelson, in his unequivocally titled book *Social Media is Bullshit*, takes on what he deems the myth of social media from a marketing perspective. Despite the provocative title, he lays out sober and reasonable expectations for what to expect on and from social media. Even though the book is about social media and marketing, his cautionary tale applies equally to the military strategist. In the book, he retells a story of how he and his wife undertook a project for a non-profit organization to encourage early cancer screenings.⁴⁹ Their goal was to raise five million dollars. His plan relied predominantly on social media, namely his Twitter followers. His rational was if each of his one million followers donated a mere five dollars, the campaign would be a success. To accompany the Twitter campaign he traveled across the country stopping at universities, not only to implore students to get early cancer screenings, but also to donate to the non-profit organization. He discovered that social media was not as its prophets and zealots hyped it to be. For all the new followers he gathered on Twitter, he collected a grand total of one dollar.⁵⁰ This spectacular failure was the genesis of his titular thesis that social media was indeed bullshit.

Mendelson caveated his opinion on the last few pages and came upon a truth of using social media in marketing, but it applies across all endeavors. Placing too much faith into a single plan of action is a recipe for failure. As previously mentioned, the truth is that context matters for social media. Mendelson admitted he placed too much emphasis on the ability of social media to carry his campaign. Context matters to social media the same as it does to any other tool. In some circumstances, it is inherently more capable, but in others, it offers little toward the greater result. Social media can only be part of a solution, not the whole

⁴⁹ B. J. Mendelson, *Social Media Is Bullshit*, 1st ed (New York,N.Y: St. Martin's Press, 2012), 169.

⁵⁰ Mendelson, *Social Media Is Bullshit*, 170.

solution, and no part is greater than the whole. That statement is true universally, whether in reference to geometry, marketing, or developing strategists.

A similar failure awaits any professional that relies too much on a single medium for lifelong education and self-development. The development of a military strategist depends upon more than social media alone can offer. Can self-development occur without social media? The answer is yes—social media is not required. People can learn on their own without social interaction. The quality of learning is where the difference lies. Consider giving two individuals a stack of books on military theory. Both read the books, but one individual reads in isolation while the other does so in a classroom of peers. Both formulate their own thoughts based on the reading, but the latter is able to utilize his peers to hone his thoughts and ideas on the subject. He states his opinion and defends it against the opinion of others. Even without consensus among the class' opinions, the individual with access to peers has a greater appreciation of how other view the same material (Eric Murphy, March 28, 2015, e-mail to the author). The individual learning in isolation does not reap the same benefits.

Social media will not create the perfect military strategist. Anyone making such a statement is using hyperbole or trying to sell something. It is a tool the military strategist can employ for professional self-development. Social media is not a magic elixir capable of creating military strategists with just a few drops--using it properly requires effort. As with many things in life worth achieving, self-development is not without cost. It is hard work. Social media provides an avenue of efficiency for the military strategist on his journey of self-development. The strategist just needs to walk down that road.

Recommendations and Conclusion

Better was a poor and wise youth than an old and foolish king who no longer knew how to take advice.

Ecclesiastes 4:13, ESV

Military strategy occupies a vital place in the national security of the United States. Situated alongside the other elements of national power, military strategy must manifest itself cogently within the overarching grand strategy of the nation. The task of creating cogent and applicable military strategies falls squarely upon the shoulder of the military strategist. As a product is always subject to the efficacy of its producer, a nation cannot afford to undervalue the importance of developing military strategists. Employing all proper and available tools in this endeavor is a nation's responsibility. In the United States, the Department of Defense (DOD) discharges this important mandate.

The DOD employs a three-fold solution to developing military strategists: formalized education, career experience, and self-development. The formalized education portion of strategic development occurs through an officer's undergraduate degree and continues throughout his military career via professional military education. The second element, experience, occurs naturally throughout the strategist's career. By the time an officer reaches field grade rank, he will have accumulated sufficient experience to apply to strategic development. The final element, self-development is the primary location of where social media can affect strategic development, though the previous two elements also share its benefits. Self-development, like experience, occurs throughout an officer's career, but unlike experiences, which an officer acquires naturally over a career; self-development has both an active and passive component. Social media can affect the active component.

Social media is much more than the social networking sites (SNS)

it is synonymous with in the modern age. Social media is the horizontal passing of information among individuals, along social connections. It has been a prevalent and powerful tool throughout history. With examples dating back to the Roman Empire, social media played an important role in pivotal historic events such as the spread of first-century Christianity and the Reformation. In the age of broadcast media, the importance of social media declined to some degree, as people no longer required social connections to receive their information. Modern technology, specifically the Internet, WWW, and Web 2.0 allowed social media to rise from its relegated status, to reclaim a position as an important method of information transfer.

In the present, modern social media primarily manifests itself in the form of SNS such as Facebook and Twitter. Organizations, from businesses, governments, and even extremist groups harness the power of social media. Professional organizations increasingly use social media as a supplement for self-development. Two professions, the medical field and academia, have shown how they utilize social media to improve their profession and professionals. Each demonstrated social media's ability to facilitate professional development through the process of sharing information, connecting individuals, and supporting the varied communities of practice resident the professions.

The DOD has also embraced the benefits of social media through such sites as Intelink and DKO. Military organizations expanded the traditional efficiencies of social media and began using it operationally as the 2008 Mumbai attack and 2006 Lebanon War demonstrated. Military strategists must be aware of social media's use in such a manner, but they also must heed the benefits of social media to support their own self-development.

This thesis has attempted to demonstrate why, as a profession and community of practice, military strategists should embrace social media as a means of increasing margins of development and improving strategic

outputs. This final section provides three axioms for using social media. After the statement of each axiom are recommendations for how the strategist and its educator might use social media. The recommendations delve into specifics for the School of Advanced Air and Space Studies (SAASS) student and for the SAASS faculty and school as a whole.

From the Past, The Future

The foregoing discussion of social media's benefits to the military strategist has been mostly confined to generalities. A military strategist can use social media to import data, information and knowledge, then synthesize them into a cogent product, presented in a convincing manner. Specifically, what does this mean for SAASS? How can the school harness social media's benefits to educate its students more efficiently? Conversely, how does the student use social media, during and after SAASS, to continue their education and development as military strategists? The following discussion provides recommendations for SAASS students and the SAASS organization so that each may tap into the benefits social media presents.

Axiom #1: To utilize social media, one must have a presence on social media.

For the younger generation who might happen upon this reading, the idea of not having a social media presence may seem almost preposterous, but the “millennials” are digital natives. They have grown up with SNS, are intimately familiar with them, and cannot imagine a time without social media. The current students and faculty at SAASS are digital immigrants (or digital aliens). SNS were not an inherent part of their lives; any exposure or experience to SNS has been a learned process. Some never involved themselves in the new social media environment. More than a few students have eschewed social media altogether or left their SNS accounts to wither on the vine.

For the SAASS student, the recommendation is simple. If you do not have an account on a SNS, or have a dormant account, now is as good a time as any to get involved. The digital natives are coming of age, it will soon be their world, and the current generations must adapt to the new technologies. If not, they run the risk of being the social media equivalent of someone who still pays by check in the grocery checkout line. This does not mean to enter social media without a plan for its use; the next recommendation will cover social media strategies.

For the SAASS organization, it already has a presence on social media, but it is neither active nor impressive. The school demonstrated its ability to leave social media pages adrift in the ocean of cyberspace. SAASS has a Facebook page, but its last update occurred a year ago, in April 2014.¹ The page is dormant or abandoned, but the update a year ago is still better than the blog site to which the Facebook page has links. The blog page, has not received an update in over a year.² Both pages are digital tumbleweeds bouncing through cyberspace, relics of good intentions. The school needs to reinvigorate its presence in social media through active participation. This requires a mission statement or vision of what social media can do for the school. It is also the second axiom.

Axiom #2: Have a clear strategy for using social media and keep it simple.

Social media accounts without an active presence behind them are irrelevant. Whether it is the individual or school, creating a SNS account and hoping for the best is not a functioning strategy—the equivalent of planting a “For Sale” sign in front of a house with no marketing strategy. Hope, as Athens told Melos, is an expensive commodity; wishing uncertainties as reality simply because there is a desire for them to come

¹ “School of Advanced Air and Space Studies,” accessed March 22, 2015, <https://www.facebook.com/USAF.SAASS/timeline>.

² Michael Smith, “Commandant’s Welcome,” School of Advanced Air and Space Studies (SAASS), March 26, 2014, <http://usafsaass.blogspot.com>.

true is delusion.³ Formulating a social media strategy on good intentions alone results in abandoned accounts. If the answer to, “why have a presence on social media?” is “because others do” the individual and school will likely fail in their endeavor to benefit from social media. Additionally, quantity of social media accounts does not make up for quality of social media interaction. The burgeoning social media user should not overwhelm himself with every SNS available. If he was leery of social media on a single site, the correct response is not to join every site in an attempt to compensate. Instead, much like the K-strategy discussed in Chapter 4, the user should do some research, find a site which he finds suitable and nurture that single account to achieve his social media strategy. Under this broad recommendation, there are two specific avenues for the student and school to consider.

For the student, as this thesis established, social media provides ways to gain knowledge and improve presentation. There are many SNS options to choose from for the strategist to gain the benefits of social media. Facebook is the most popular, and if the strategist is already a member for reasons unrelated to his professional life, it is easy seek out Facebook accounts dedicated to strategy to follow or friend. If the strategist does not already have a SNS account, Twitter is a simple option to connect with CoPs she finds interesting and relevant to her profession. As the user becomes more familiar with social media and expands his connections through who he follows, the intertwining of CoPs and information occurs naturally.

If the strategist is interested in using social media to improve his writing and argumentation, there are numerous blog sites dedicated to the application of military theory and strategy. If the student is unsure which blog site to utilize, his use of social media for interacting with

³ Thucydides, *The Landmark Thucydides: A Comprehensive Guide to the Peloponnesian War* (New York: Free Press, 2008), 352-353.

CoPs cannot help but provide him with articles from differing blogs sites. The process occurs organically. The more an individual is active and engaged on social media, the larger his network becomes and the greater exposure he receives to varied viewpoints, authors, and sites. The recommendations for the student apply to the SAASS faculty as well. Even with their terminal degrees and accolades, as lifelong learners, the faculty can gain from social media as much as the student.

For the school itself however, there are two recommended strategies to employ. The first is having an active social media presence, one that highlights student and faculty products. The second is using social media for writing and grading assignments in conjunction with the classroom experience.

To begin with, as alluded to in the previous recommendation, the school needs to have an active presence on social media. The paltry accounts and presence that exists today is unacceptable; it would look better for the school to ignore social media than to have a stagnant presence. One example of a strategy for a social media presence is a combination of a Twitter account and blog site. The school already has a blog page, but if it is looking to start anew, WordPress and Tumblr are proven commodities for blogging. The school can utilize its blog to post the best student papers from the latest writing assignments or allow the faculty to post their own thoughts on a given subject. This method exposes SAASS products to the strategy CoP, in addition to allowing SAASS graduates, or perspective students, the opportunity to read and converse with the current class and faculty. The Twitter account acts as the marketer for the blog site, updating its followers to the latest postings on the blog or updates from the current school year.

The second recommendation for the school involves using social media within the classroom. As a degree-granting program, the school has a responsibility to maintain its written work for the majority of the classes, especially during the more foundational first semester. In the

second semester, given the more topical class structure, there is more flexibility for assignments using social media as the output. One option involves having students research a blog site applicable to a certain class topic, such as space or cyberpower, and submit a piece for posting. Instructors would grade the submissions, but it would provide social media experience to the students, in addition to getting their ideas, thoughts, and names into strategic CoPs. Another method involves the student updating an article on Wikipedia, so often the bane of academia. Regardless of the distaste many professors have for Wikipedia, it is one of the most popular sites on the web today and is where many people get their information. The assignment involves having a student take a Wikipedia page on a certain subject (related to the class they are currently taking), and update it to either be more accurate, or expand on the knowledge the page already relays. Grading could occur via a screenshot from the initial page compared to the page after the student's update. This method embraces the essence of social media. Instead of limiting the knowledge of the SAASS student to the instructor, he is able to spread the knowledge acquired from the study of his materials and seminar discussions onto more than just one person. By updating a Wikipedia page, the knowledge spreads to any user that visits that site.

These recommendations are just that, they are only two of the many possibilities individuals and the school may opt to use. The methods do not have to be static either, as the individual or school develops new strategies, social media can adjust to accommodate the new solutions. Utilizing these methods, however, require accepting the third axiom.

Axiom #3: Understand the time investment social media requires.

Automation has done amazing things for society. With the advances in automation, aircraft fly on their own, ships steer themselves,

and automated cars are probably not too distant a reality.⁴ Social media is not automated. To be fair, there are automated features within social media, but production or analysis of content is not one of those features. Analyzing social media content requires time and effort by the student, and maintaining a social media presence for the school requires a significant amount of time for its administrators.

Even though this axiom applies more to the SAASS organization than the individual, the student still needs to be aware of its value. While SNS provide easy access to information, content, and writing, they are still just a tool. SNS cannot provide a shortcut for the student to eschew tradition study and deliberation. The student must put in the time and effort to garner the benefits of social media. He must validate the sources of his information, review the content, and most importantly, be able to analyze and synthesize the information into his opinions and ideas. Additionally, if the student is utilizing a blog site and preparing a piece, social media only facilitates the ability to place the information in an area, which is easily accessible to the CoP. The student is still responsible for the writing and thinking which goes into the content he produces. While social media does allow for efficiencies, it cannot substitute for the development of thought processes. The student still has a responsibility to put in the time to gain the benefits.

The school has a much greater responsibility to understand the requirements of the axiom. Maintaining a SNS presence is not an easy task. It requires dedicated individuals to ensure the account is active. A recent study, which focused on the effects of Twitter on first year college students, demanded two faculty members to monitor and participate in the Twitter feed.⁵ SAASS may not have this extensive a requirement;

⁴ Alex Davies, "This Is Big: A Robo-Car Just Drove Across the Country," *WIRED*, April 3, 2015, <http://www.wired.com/2015/04/delphi-autonomous-car-cross-country/>.

⁵ R. Junco, G. Heiberger, and E. Loken, "The Effect of Twitter on College Student Engagement and Grades: Twitter and Student Engagement," *Journal of Computer Assisted Learning* 27, no. 2 (April 2011), 129.

however, it needs to be more than an additional duty. As a minimum, the effort required to monitor and administer the SNS account would equate to advising one thesis throughout the year. The faculty should be the primary administrators on the account, but they can utilize students in each class to assist. By taking a few positions from the student additional duties roster and allocating them as social media representatives, they can help the faculty administrator his duties. This combination of faculty and students offers a good option for the school. The faculty assumes the ultimate responsibility, but the students, who increasingly will be more digitally native, bring fresh enthusiasm (as they will be volunteers) to the position each year.

The axioms presented are by no means an exhaustive list. There are business and marketing books (as well as blogs and Twitter accounts), which detail how to make the most out of social media. These axioms are basic, but provide the initial processes necessary for the SAASS student, faculty, and organization to begin benefitting from what social media offers.

Parting Thoughts

Like other technologies, SNS will continue to evolve. Starting from the advent of the WWW, it is possible to see where evolution has already occurred—what began with Classmates.com has steadily moved forward ever since. From Friendster and MySpace to Facebook, Twitter, and more recently, Instagram, the trend of SNS improvement and change marches onward. The latest update to grab SNS is live video streaming; now individuals can turn mobile devices into their very own “live via satellite” feeds. Meerkat and Periscope represent the two most popular apps in this new SNS race. Both utilize Twitter as an engine and allow users to stream live video directly to a Twitter feed where their followers

can watch the “action.”⁶

Inevitably, new applications or sites will supplant the SNS establishment, just as Facebook did to MySpace—the king is dead; long live the king. An underlying principle allows SNS to jockey constantly for market shares and breakthroughs on the next big thing—social media. As long as human nature remains fundamentally unaltered, where people seek to interact with each other, social media will continue to drive human interaction; the methods may change, but the rationale stays constant.

This thesis was a qualitative analysis of why social media benefits the military strategist. A digital immigrant wrote the analysis, not a digital native. As such, biases include the nurturing of social media knowledge as opposed to the natural social media knowledge, future generations will, and already have. Current military strategists and theorists are considering why social media will benefit them; the next generation of thinkers will already be immersed in social media. They will not need to be convinced why social media is a good idea; to them social media use is not an option, it is a given. The digital natives’ challenge will be how to use it social media more effectively. More research is required for more complete understanding of how social media benefits and has benefitted military strategists in their careers.

Military strategists require vast amount of data and information to practice their craft effectively. Social media offers an avenue for military strategists to access vast amounts of knowledge, experience, and analysis. All this is accomplished through the digital interaction and support offered by one individual to another. While it is an option, a strategist that decides to eschew social media, and the assistance of others, does himself, and more importantly his nation, a disservice.

⁶ Rhiannon Williams, “What’s the Difference between Meerkat and Periscope?,” *The Telegraph*, March 30, 2015, <http://www.telegraph.co.uk/technology/social-media/11503574/Whats-the-difference-between-Meerkat-and-Periscope.html>.

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